

DENTAL



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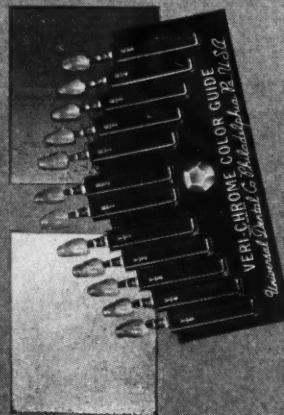
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THE
DENTAL
Digest

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DECEMBER 1944

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JACOB ABRAHAM SAFFIR, D.D.S. (University of Illinois, College of Dentistry, 1923) is engaged in research in plastics and pros-

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thetics. He has contributed numerous articles to dental literature. Doctor Saffir reports SIMPLE EXPERIMENTS IN EVALUATING THE STABILITY OF ACRYLICS.

OTTO MEYER, M.D. (Rostock University,

Germany, 1921) wrote for us on focal infection in June 1940, January 1942, September 1943, and January 1944. This month he discusses THE ELIMINATING FUNCTION OF THE TONSILS IN DENTAL INFECTIONS.

JACK PERLOW, (B.S., 1933, College of the City of New York; D.D.S., 1937, New York University College of Dentistry) is in general practice. He wrote for us in March 1940 on a COMBINATION COMPOUND BITE AND IMPRESSION, and in December 1943 on BAR CONSTRUCTION AND ASSEMBLAGE IN ACRYLIC FIXED BRIDGES. Doctor Perlow presents here the USE OF THE SPEAR POINT DRILL IN ORAL SURGERY.

Penicillin in the Treatment of Osteomyelitis of the Mandible

Lieutenant Commander D. F. WARD (MC) USNR, and Lieutenant REXFORD H. STEARNS (DC) USNR,

Great Lakes, Illinois

DIGEST

Three cases of osteomyelitis of the mandible which were treated with penicillin are reported from a naval hospital. With the use of penicillin and minor surgery, the average number of sick days was decreased. No recurrence of the osteomyelitis resulted; pain was relieved; and clinically and roentgenologically, recovery was most rapid.

OSTEOMYELITIS of the mandible has long been one of the dreaded diseases. It has been a complication most feared in dental and maxillo-facial surgery. The deformity produced by this disease has been seen many times by medical and dental officers. The suffering and discomfort of the patient cannot be measured.

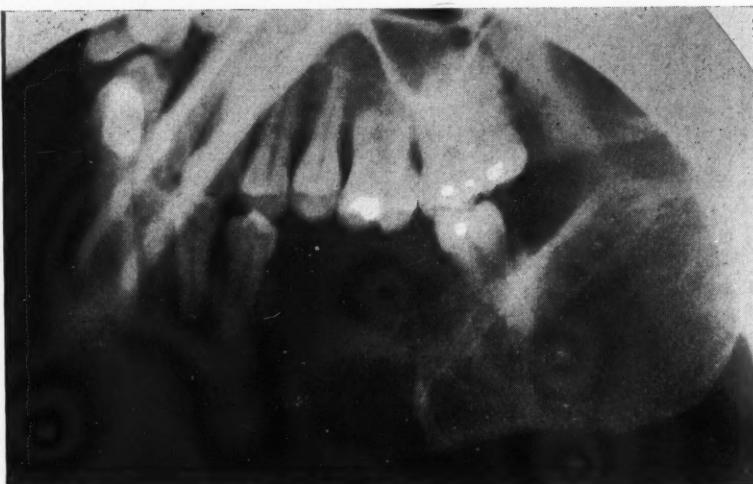
It is not the purpose of this article to deal with the etiology, pathology, or symptoms of osteomyelitis of the mandible, but to bring encouragement in the use of penicillin. In reporting three cases, we are fully cognizant of the necessity of having a series of hundreds of cases to prove or disprove our findings.¹ Perhaps penicillin is the answer to the problem of this disease. If our cases are a criterion, penicillin has shortened the period of morbidity and has stopped the process of the osteomyelitis, with resultant rapid recovery.

Case I

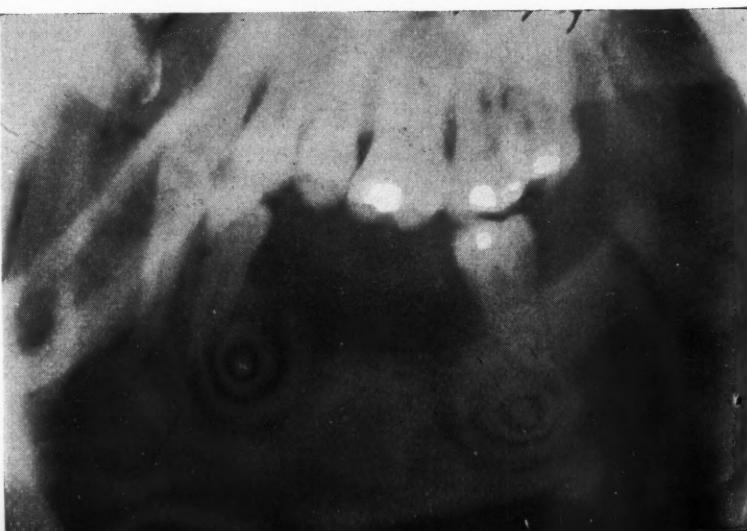
History and Examination — A white man, aged 27, entered the hospital with the following complaints: "sore teeth," inability to



Fig. 1—Case I: Acute osteomyelitis of the mandible following extraction of first molar.



Figs. 2 and 3—Case I: Improvement after penicillin treatment for osteomyelitis of the mandible.



¹Since this report, Commander Ward (MC) and Lieutenant L. E. Wilde (DC) have had five more cases of osteomyelitis following fractures of the mandible, and the same response has been evident. These patients are still under treatment, but their progress suggests similar results. As yet, the authors have not arrived at an established penicillin dosage.

masticate food, pain in the jaw, dysphagia, and loss of weight. He had had an abscessed lower right first molar which had been extracted five weeks prior to admission. Following the extraction he suffered severe pain with marked swelling in the region of the right cheek and the submaxillary gland. The mouth and tongue became swollen and he had dysphagia. During this period the patient lost weight from 160 pounds to 120 pounds.

Roentgenologic studies led to a positive diagnosis of acute osteomyelitis of the right mandible (Fig. 1).

Treatment—On February 8, 1944, 30,000 Oxford units of penicillin were given intravenously. The initial dose was followed every three hours by intramuscular injections of 10,000 units. Within six hours of administration of the initial dose of penicillin, the patient volunteered the information that he could swallow without pain, and that the pain in his jaw had almost ceased. A sequestrum measuring $\frac{1}{4}$ inch by 1 inch was removed from the incisor region on February 11. Natural drainage on the right side was established with diminished swelling. Some sequestra were removed on February 26 and on February 28 following the administration of 600,000 units of penicillin, the patient continued to show improvement clinically and roentgenologically (Figs. 2 and 3). The mandible and surrounding tissue lost their stony appearance, and the swelling and discomfort subsided. The patient gained 37 pounds in weight.

Case II

History and Examination — A white man, aged 36, entered the hospital on January 19, 1944, with the diagnosis of simple fracture of the left mandible as the result of an automobile accident five weeks before. He had been unconscious for several days following the accident. Two weeks after the accident the fracture had been immobilized with a screw in the ramus of the left mandible and wires in the teeth (Fig. 4). The left side of the face began to swell and became painful.

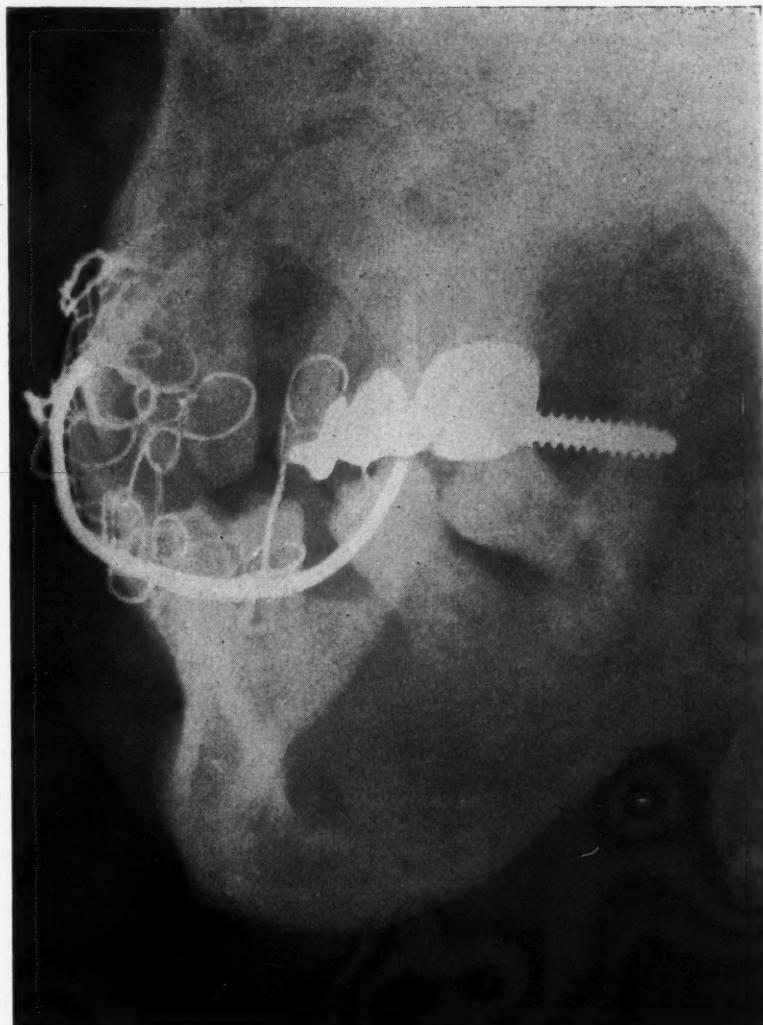


Fig. 4—Case II: Fracture of left mandible immobilized with screw in ramus and wires on teeth.

Fig. 5—Case II: Screw and wires removed. Fractures at angle of left mandible and in region of right first bicuspid.



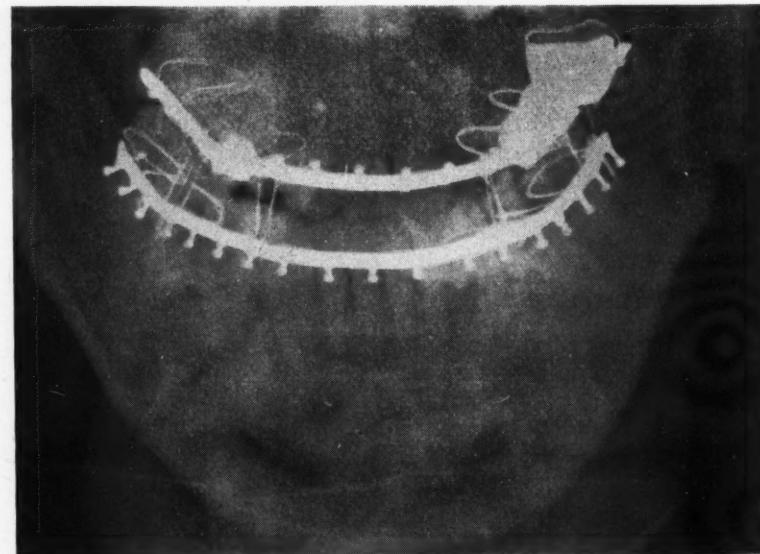
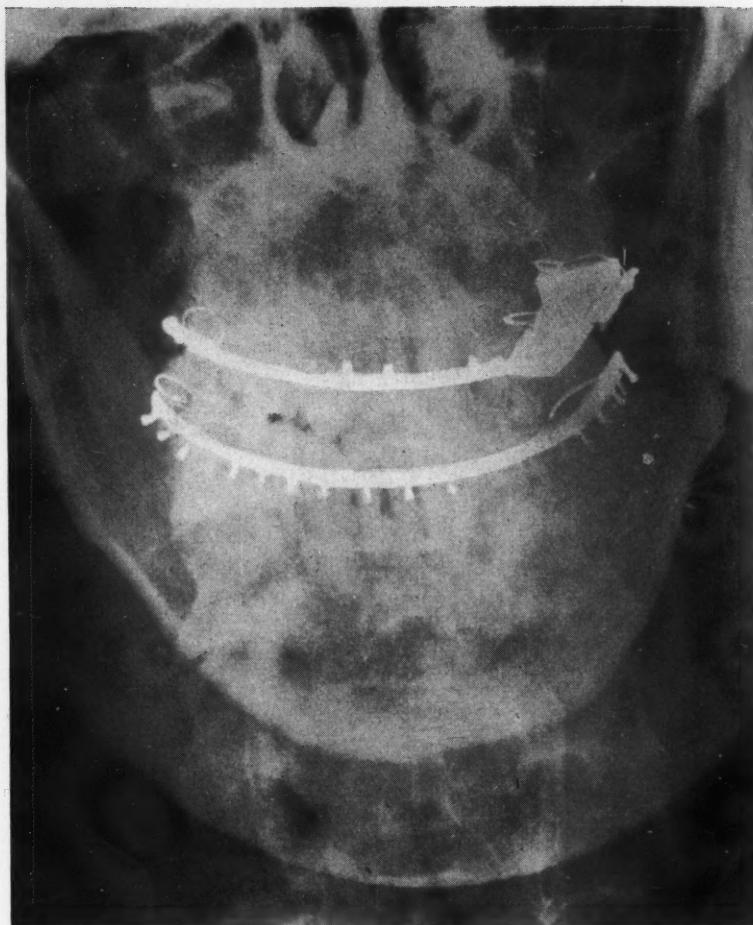
On admission, roentgenographic examination showed a fracture in the region of the angle of the left mandible and another fracture line in the region of the right first bicuspid (Fig. 5). The fragments were in good position.

Treatment—In changing the technique of treatment, the wires were removed and the screw was removed from the base of the coronoid process. When the screw was removed, frank pus exuded. The left third molar was removed from the line of fracture. The fragments were then in much better position (Figs. 5, 6, and 7).

On February 8 the patient was given 20,000 cc. of penicillin intravenously, and 10,000 cc. every three hours until 240,000 cc. had been given. The pain was relieved in about twelve hours following the initial injection of penicillin. The character of the discharge changed from thick, creamy pus to thin, watery pus, and the amount steadily decreased. The swelling and the induration subsided rapidly. A small sequestrum was removed from the opening made by the screw in the base of the coronoid process. The patient's condition has continued to improve. After three months of treatment, roentgenography finally showed bone production and the fracture areas healed (Fig. 8).

Case III

History and Examination — A 33-year-old white man entered the hospital complaining of swelling at the angle of the left mandible for three weeks following the extraction of a molar. The extraction was done because of periodontitis. A soft tissue granuloma was curetted from the socket at the time of extraction. Forty-eight hours later the region behind the left mandible began to swell. Local heat and chemotherapy reduced the swelling by the seventh day. On the twelfth postoperative day the swelling recurred and persisted to the time of admission to the hospital. The patient's past history suggested that he had had periodontal disease for seven years.



Figs. 6 and 7—Case II: Change of treatment of fractures. Note left third molar removed from line of fracture.

On examination the area at the angle of the left mandible and all the surrounding soft tissues, above and below to the midline and base of the

neck, were involved by a massive, warm, indurated swelling which extended upward to the zygoma. The entire area was tender.

Roentgenograms on March 24 showed an osteomyelitis of the left mandible (Fig. 9). There was an area of destruction near the tip of the socket of a recently extracted molar.

Treatment — Incision and drainage were done at a point of fluctuation, and about 4 ounces of foul-smelling, creamy pus were obtained. Culture revealed hemolytic streptococci.

Penicillin was administered intravenously with an initial dose of 30,000 units, and 10,000 units every three hours until 800,000 units had been given. The character of the pus changed as in previous cases from a creamy pus to a thin, serous pus. Five days after the penicillin treatment was started, a roentgenogram showed no evidence of extension of the osteomyelitis, and the margins of the areas of destruction were sharp, denoting evidence of healing. Progress was not too satisfactory, however; drainage continued and swelling recurred. On May 9 penicillin was administered again: 15,000 units intravenously, and 10,000 units every three hours until 825,000 units had been given. Another area of swelling was opened, and a small amount of pus was obtained. Local instillations of penicillin were then given. It again became necessary to open a large abscess below the old incision, and 2 ounces of foul-smelling pus were obtained. Culture showed *Streptococci viridans*.

Following this, progress was steady, and on June 11 roentgenologic examination of the left mandible showed almost complete healing of the bone (Fig. 10). The patient was returned to duty completely well and with no deformity after four months.

U. S. Naval Training Center.

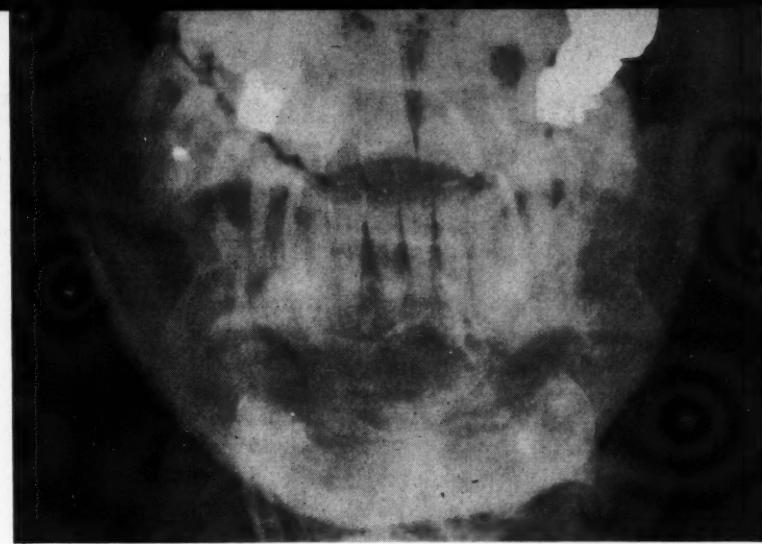


Fig. 8—Case II: Roentgenogram three months after penicillin treatment shows bone production and fracture areas healed.



Fig. 9—Case III: Osteomyelitis of left mandible following extraction of molar.
Fig. 10—Case III: Almost complete healing of mandible following penicillin treatment of osteomyelitis.



Simple Experiments in Evaluating the Stability of Acrylics

JACOB A. SAFFIR, D.D.S., Kew Gardens, Long Island

DIGEST

The few simple experiments presented here will help the dentist determine for himself the stability of the acrylic resins. The experiments can be performed in the average dental office with the usual equipment on hand.

NO GREAT issue is being raised over the use of acrylics in full denture prosthesis, but the literature on the use of acrylics for occlusal surface restorations, stationary bridges, crowns, and dentures will disclose two schools of thought. One group is impressed with the esthetic value of acrylic restorations, and professes to see utility and desirability in them as well. The other believes that acrylic is utterly untrustworthy for actual biting stress or wherever accuracy and stability are essential.

Test for Dimensional Stability

1. Process a full upper denture in the usual manner. If possible, use a model denture that has no undercuts. Severe undercuts will hamper observations and will not facilitate

placing the denture on and off the stone model as must be done later. If possible, make the denture for an actual patient, one who is readily available for frequent observation. If this is done as an experimental case only, keeping it immersed in water will more accurately simulate the moisture conditions in the mouth.

2. Remove the lid carefully from the processed flask. If the case was sent to the laboratory, have it returned unopened. Carve out the investment so that the occluding portion of the teeth is exposed (Fig. 1). Exposure of the entire labial portion of the anteriors is not advised inasmuch as any undercuts due to the gingival sloping of the labial surfaces will make removal of an impression from these surfaces more difficult later. An exposure of about 3 millimeters on the labial is sufficient, but the entire lingual may be exposed.

3. Cut around the inside of the upper half of the flask ring with a sharp knife so as to permit removal of the ring. The invested denture,

minus the ring and with the teeth exposed, is shown in Figure 2.

4. Take an impression of the occluding surfaces of all the teeth as they are before the case is completely unflasked. This is obtained by applying a separating medium, such as soap, to the exposed plaster and teeth shown in Figure 2, and then pouring stone over this and allowing it to set (Fig. 3). A stone that is neutral or almost neutral in setting changes should be used. When the stone has set and is removed, it is an accurate index of the occlusal surfaces before complete deflasking (Fig. 4). This impression can be used to detect any changes in the occlusal acrylic from time to time. Note that this impression at first fits well and the teeth index properly where they belong.

You are now in a position to detect any change in the acrylic gross enough to distort the original tooth setup, and can measure such changes at intervals of weeks or months. Such a test will aid you to understand why figures given after only a few days' or a few weeks' measure-

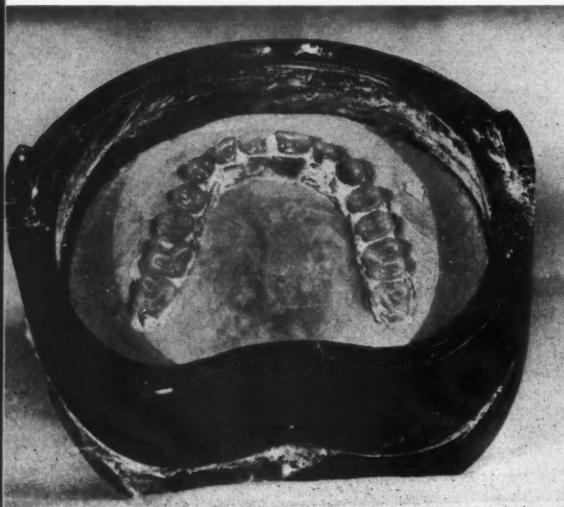


Fig. 1—Carve out investment so that the occluding portion of teeth is partly exposed.

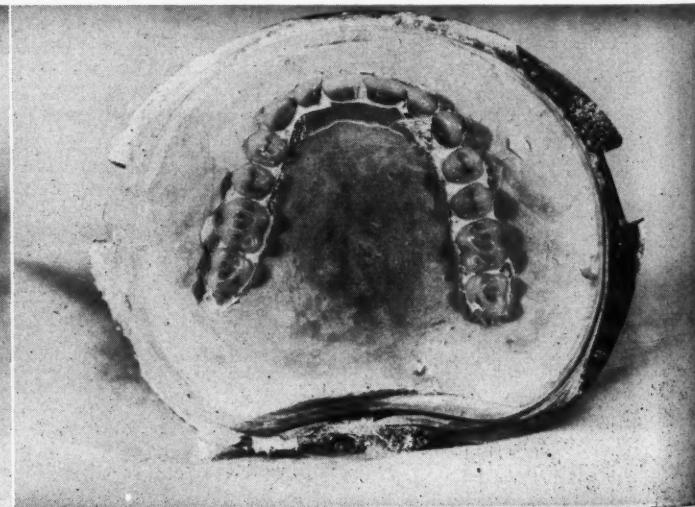


Fig. 2—Invested denture minus the flask ring and with the occlusal portion of the teeth exposed.



Fig. 3—Dental stone poured over exposed teeth of processed denture.

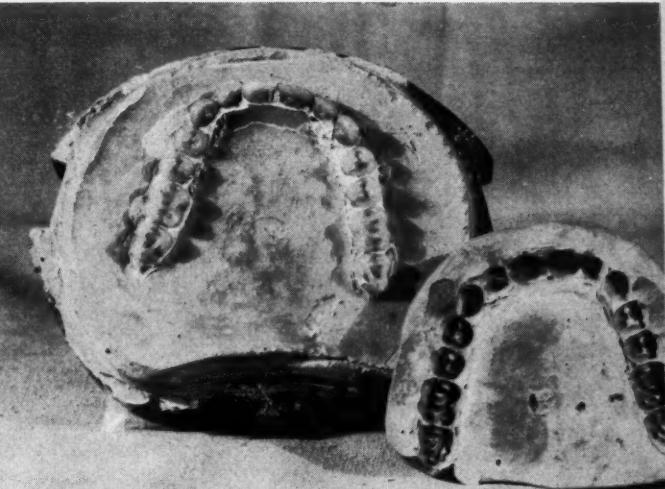


Fig. 4—Dental stone impression of occlusal surfaces of denture teeth before complete deflasking.

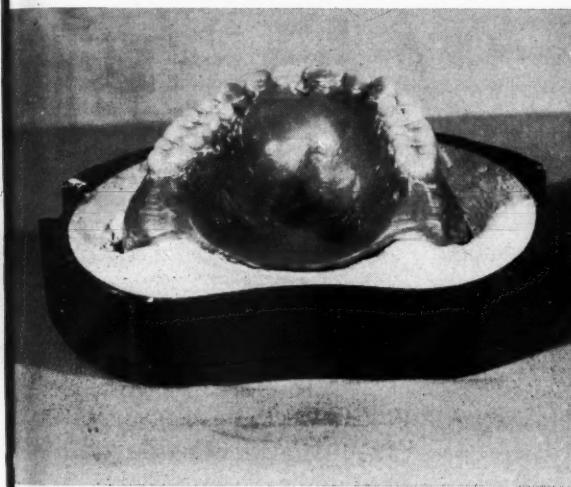


Fig. 5—Acrylic denture in place on plaster model against which denture was cured.

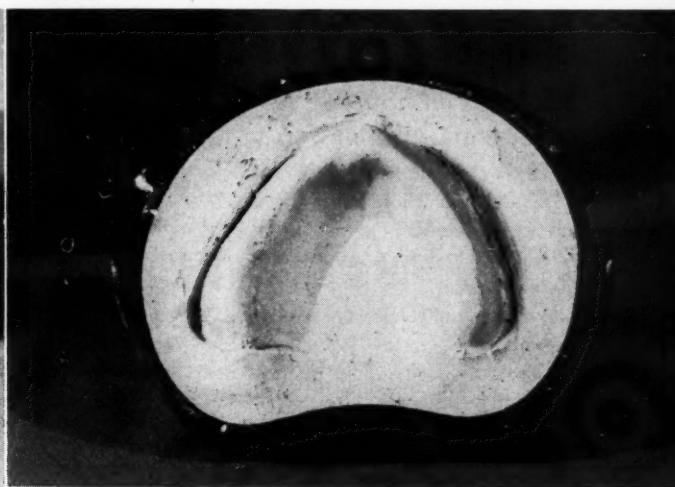


Fig. 6—Plaster model intact in lower half of flask.



Fig. 7—Trim investment in flask so as to expose palatal edges.

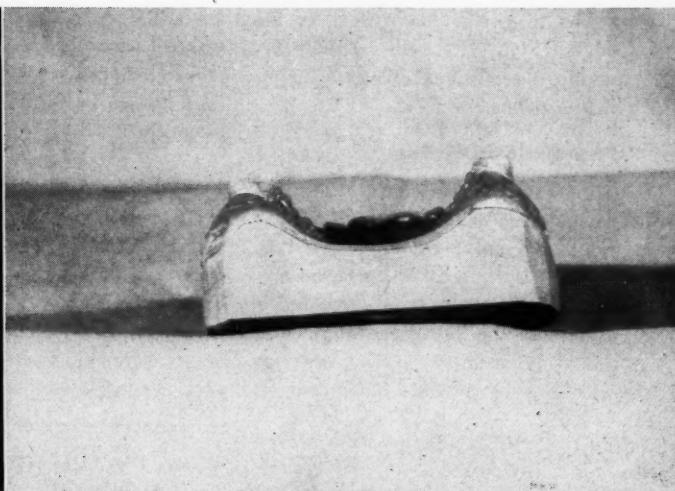
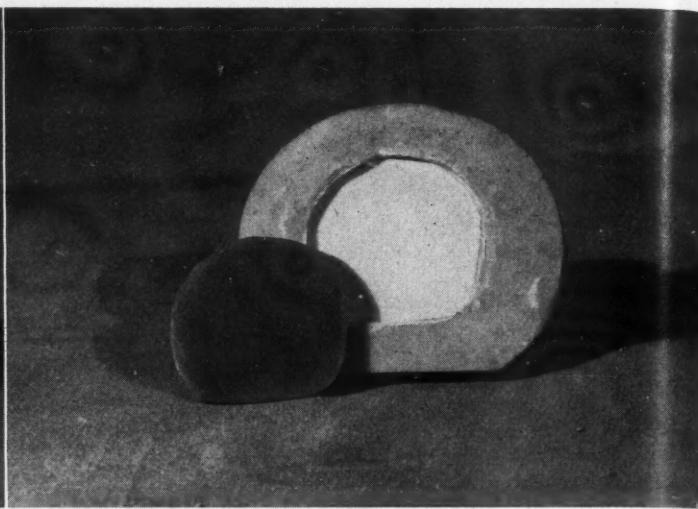


Fig. 8—Pour stone model directly against palatal portion of finished denture.



Figs. 9 and 10—Flat disc of acrylic in mold of dental stone to check stability of acrylic if experimental denture cannot be used.

ment may differ from measurements made after a month or a year.

Test of Palatal Adaptation

1. Deflask the denture (Fig. 5). If possible, do not injure the model against which the denture was cured. An absence of undercuts will simplify this procedure.

2. Remove the denture, leaving the model intact in the lower half of the flask (Fig. 6). This model, against which the case was cured, provides another accurate gauge with which to measure any changes that may occur in the acrylic after curing. If some of the distal part of the investment in the flask is trimmed so as to expose the palate at the edges (Fig. 7), it will facilitate accurate observations of any changes in the palate.

Post-Deflasking Test

Usually a considerable change takes place during deflasking, and the original model only becomes interesting because of the great contrast deflasking provokes; therefore, to judge post-deflasking results, another step should be taken. Give the material every possible advantage and remove

only rough excess stone, but do not finish or polish the denture inasmuch as this creates more unfavorable changes. Use the unpolished denture, less the excess, for the following experiment:

1. Pour a stone model directly against the palatal portion of the finished denture (Fig. 8).

2. The denture can be placed against this model at intervals to check for any gross changes in the denture.

3. Special care should be taken to note any changes in adaptation in the palate of the denture (which may become smaller and appear to shrink away from the stone), and at the heels and throughout the denture. These changes will disclose more about the stability of the acrylic than can be found in volumes of literature.

Substitute Experiment

An operator who does not make dentures can use the following experiment for determining the stability of acrylic:

1. Make a small flat disc of acrylic about the thickness of a piece of pink denture wax and about $1\frac{1}{2}$

inches in diameter. This disc will represent the denture in the preceding experiments. Flatten two edges of the disc slightly to permit proper indexing later.

2. Place the flat piece of processed acrylic in a proper mix of dental stone (Fig. 9). When the stone has hardened thoroughly, remove the acrylic insert (Fig. 10). Note how snugly the acrylic fits for the first few days, and that even at the end of a week the fit is fairly good. Keeping the acrylic and stone immersed in water will more closely simulate conditions found in the mouth.

3. In analyzing the fit of the disc, it is suggested that one try to create motion of the disc within the cavity. Any shrinkage or changes in shape will indicate the stability of the acrylic over varying periods of time.

No originality is claimed in these experiments. Because of the stimulating and exhilarating effect of learning a truth for one's self, they are called to the attention of those who may have found statistics alone confusing.

119 Quentin Street.

Unsolicited Manuscripts Are Welcome

"When you have made an observation of value or reached a conclusion concerning the unusual, publish it. Avoid carrying unpublished knowledge to the grave!"—Sir William Osler.

The Eliminating Function of the Tonsils in Dental Infections

OTTO MEYER, M.D., New York City

DIGEST

The theory is advanced that the tonsils are an intermediary eliminating organ for dental infections, and that inasmuch as infectious material eliminated by the teeth drains into the tonsils, the tonsils should be preserved whenever possible.

Functions of Tonsils

From a teleological point of view it seems improbable that the tonsils are vestigial and without function. Histologically the structure of the tonsils is the same as that of other lymph glands in other parts of the respiratory and alimentary tracts. The lymph nodes act as important structures for the defense of the blood against the invasion of bacteria or other injurious agents traveling through the lymph paths. When an infection of tissue near a gland occurs, the gland becomes inflamed as a result of the localization therein of some of the bacteria or their toxins carried in the lymph. The gland swarms with phagocytes which attack and destroy the invading organisms. Thus a barrier is raised against the passage of deleterious agents, particularly bacteria, into the blood stream.

In addition to functioning as a filtering station, the tonsils act as an intermediary station of elimination. Henke¹ injected small amounts of fine sterilized soot into the nasal mucosa of patients about to have tonsillectomies, and demonstrated that in a short time the soot had accumulated in the tonsils. Microscopic examination left no doubt that the soot particles were carried there through the lymphatic system. After tonsillectomy it could be shown that the soot particles wandered through the

epithelium to the surface of the tonsils. Henke likewise demonstrated by injection of soot into the gingivae of cats that a direct lymphatic connection exists between the oral mucosa and the tonsils.

The tonsils, therefore, having a definite protective and eliminating function, are an important defense organ of the body and should be removed only if absolutely necessary.

Theorization

Every dentist and physician has observed that after extraction of infected teeth chronic inflammation of the tonsils often subsides quickly. This indicates that the tonsils were inflamed because they were irritated by the infectious material eliminated by the teeth. In some cases, however, the inflammation of the tonsils persists and is not influenced at all by the removal of dental infections. It is evident that such tonsils are infected and, being no longer a protection but a positive danger, should be removed.

I have observed in many patients the obvious relation between the teeth and the tonsils. In routine examinations of the oral cavity, I always use a Roeder tonsil sucker. Tonsils apparently normal on inspection often yield purulent, malodorous material on suction. Inasmuch as inflamed tonsils are hyperemic, a little blood of bright red color often appears in the suction cup. If the same tonsil is sucked within a few hours after the extraction of a tooth, dark coagulated blood is invariably found in the suction cup. This blood obviously had its origin in the traumatized extraction area.

The function of the tonsils as an outlet for infectious material from infected teeth can be observed in patients with impacted teeth. Accord-

ing to Lucas² all impacted teeth, after the patient reaches a certain age, are infected. He found this true in six hundred patients with impacted teeth. Invariably I have found symptoms of severe tonsillitis in patients with impacted teeth. Some of the patients had the tonsils removed without suspecting the impacted teeth as "feeders" for the inflamed tonsils. Usually two weeks after the tonsillectomy, when scar tissue had sealed off the tonsil area, the patients complained of severe rheumatic symptoms. These disappeared only after removal of the impacted teeth. This shows clearly that the tonsils act as an intermediary station for the elimination of infectious material from the teeth. The tonsils, likewise, sometimes seem to be a barrier to prevent the spreading of dental infections into the blood stream by way of the jugular veins.

Conclusions

If a chronic tonsillitis is found in the presence of infected teeth, the following controversial question arises: Are the tonsils inflamed because they act as an outlet for the infection in the teeth, or are the tonsils infected separately and should they be removed? The question can be answered only by removal of the infected teeth. If the tonsillitis subsides, the tonsils were inflamed because they had been irritated by the infectious material from the teeth. If the tonsillar inflammation persists, the tonsils are infected or abscessed and should be removed. In my opinion, a thorough dental examination should precede all other measures in dealing with chronic tonsillitis, and if infected teeth are found the dental treatment should be carried out first.

200 West Fifty-Fourth Street.

¹Henke: Versuche ueber die Frage der physiologischen Bedeutung der Tonsillen. Deutsche med. Wochenschr., 39:618, 1913.

²Lucas, C. D.: Physiologic and Pathologic Status of Impacted and Unerupted Teeth. J.A.D.A., 22:276 (February) 1935.

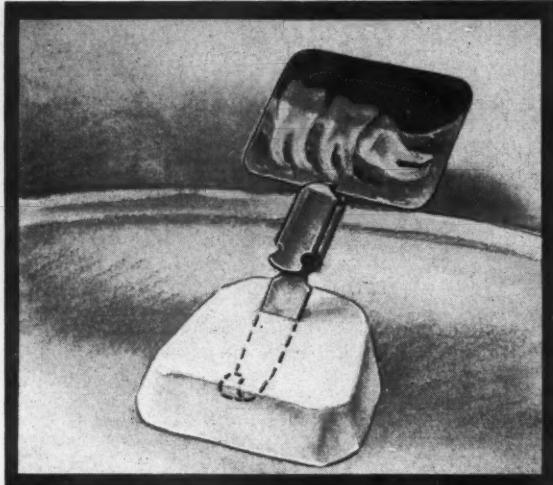


Fig. 1

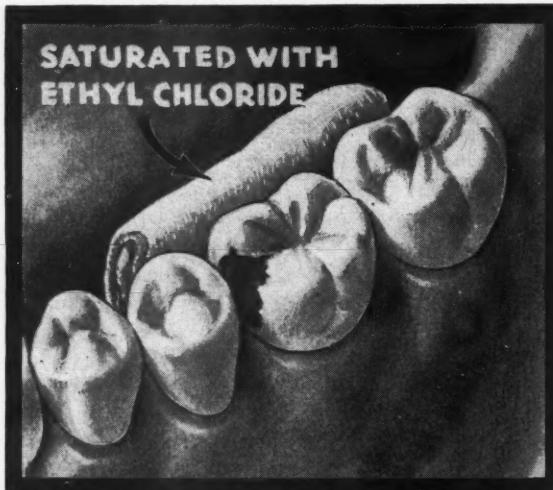


Fig. 2

Clinical and Laboratory Suggestions

A Method of Holding a Roentgenogram During an Extraction

Submitted by Captain W. H. Coleman (CDC), Alymer, Ontario, Canada

Fig. 1—Insert the end of a roentgenogram clip into soft plaster at an angle of 80 degrees, and mold the plaster to shape. The roentgenogram thus can be set out on the tray for easy observation during the entire operation.

A Supplementary Anesthetic Pack for Extractions

Submitted by Henry L. Desatnek, D.D.S., Brooklyn

Fig. 2—Saturate a 2-inch gauze pack with ethyl chloride, and place it against the lingual (or palatal) side of the tooth for three to four seconds before extracting the tooth. This supplemental pack is used effectively if the original anesthesia has not been complete or if the tooth is loose and deep anesthesia is unnecessary. It likewise does away with use of the ethyl chloride spray which is injurious to face tissues.

An "Electric" Spatula for Use in Setting Up Teeth

Submitted by R. L. Fairbanks, D.D.S., Salt Lake City

Fig. 3—Connect a wood-burning pencil through a rheostat which will control the temperature of the pencil for melting the wax. If the rheostat is not used, the pencil will become too hot.

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Fig. 3

A Simplified Method of Applying a Topical Anesthetic

Submitted by Abraham Glick, D.D.S., U.S.P.H.S., Chillicothe, Ohio

Fig. 4—A pellet of cotton (A) saturated with a topical anesthetic is inserted in a rubber polishing cup (B) which is mounted on a contra-angle mandrel (C) and attached to a porte polisher (D). The cup is then pressed down on the dried gingival area which is to be anesthetized.

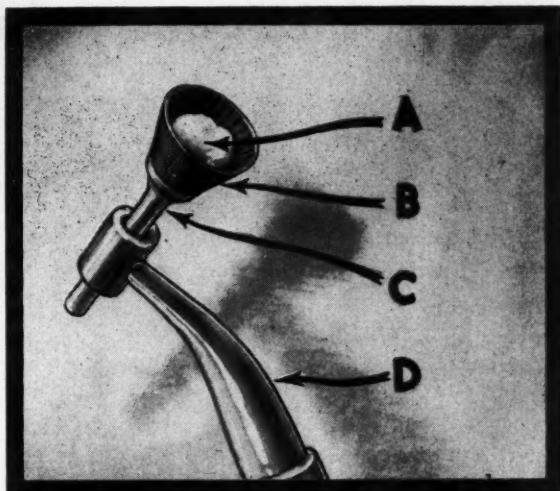


Fig. 4

A Method of Contouring the Lingual Surface of Adjacent Anterior Restorations

Submitted by Lieutenant Robert Vane (DC) USNR, Iowa City

Fig. 5—Place a small pedge of cotton in the lingual loop of a T-shaped cellophane strip set between the teeth. Pull the cellophane labially to draw the cotton into the lingual embrasure and hold it firmly in place for three minutes. The lingual surface of the restored teeth will need virtually no finishing and the lingual embrasure will be well formed.

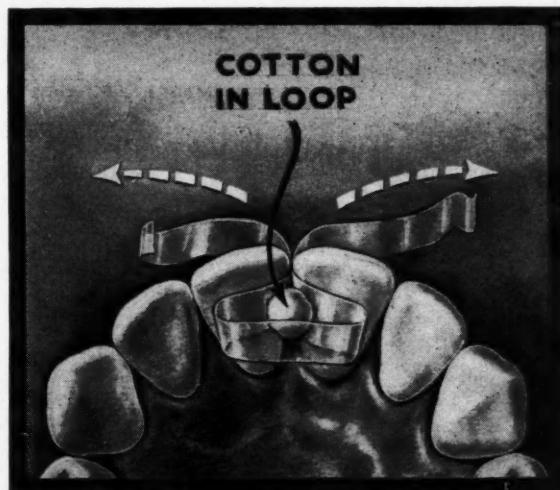


Fig. 5

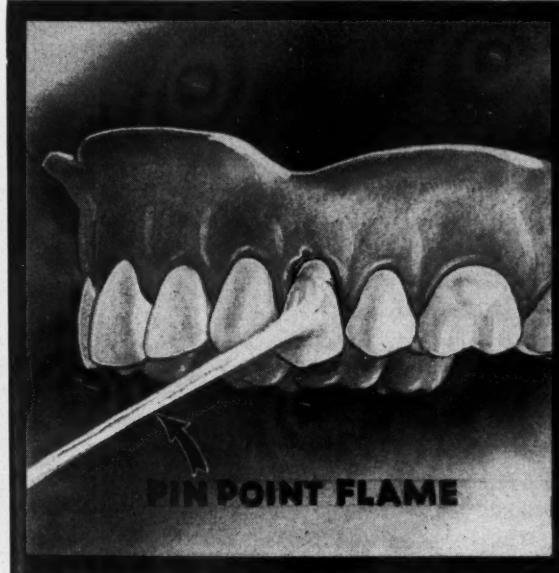
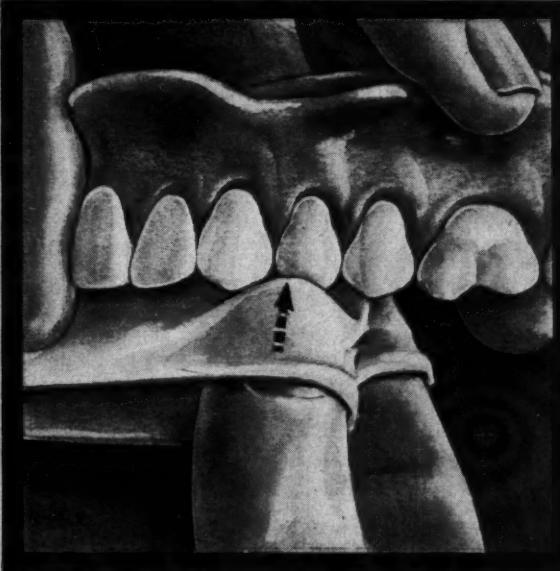


Fig. 6



Use of the Spear Point Drill in Oral Surgery

JACK PERLOW, B.S., D.D.S., Brooklyn

DIGEST

The advantages and principles of using the spear point drill in tooth extraction are listed, and the step-by-step procedure in removing an upper first molar is described.

ABOUT FIFTY years ago Matthew H. Cryer delivered a lecture before the Odontological Society of New York on the subject of the surgical engine and its use in bone surgery.¹ When this paper was first read before the dental society, a great step was made in the field of oral surgery. Motor-driven instruments, such as trephines, burs, and drills, have been employed extensively in many fields of general surgery,² including neurologic and orthopedic, but even today they have hardly been used in the surgical phase of dentistry. It seems rather strange that an instrument with which the average dentist is an expert should not have its maximum application in oral surgery.

Feldman states:³ "The use of the engine drill and elevators is especially emphasized for the removal of fractured teeth, embedded roots, malposed and impacted teeth. The use of the bone chisel and mallet has been practically eliminated for these operations." I feel that this technique of using the spear point drill (Fig. 1) should be used more widely than it is at present.

Advantages of Spear Point Drill

The uses of the spear point drill are innumerable; they are limited only by the ingenuity and imagination of the operator. No claim is made that it is perfect; but in hun-

¹Cryer, Matthew H.: *The Surgical Engine and Its Use in Bone Surgery*; paper read before the Odontological Society of New York, November 1, 1896.

²Kells, Edmund C.: *The Lower Third Molar; Johnson's Textbook on Operative Dentistry*, ed. 4, Chapter 27.

³Feldman, Hillel M.: *A Manual of Exodontia*, ed. 2. Philadelphia, Lea and Febiger, Chapter 9.

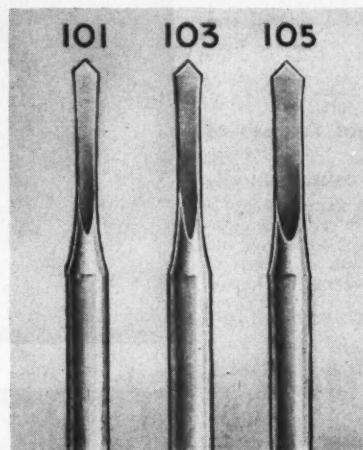


Fig. 1—Spear point drills: Numbers 101 and 103 for roots and bicuspids; number 105 for molars.

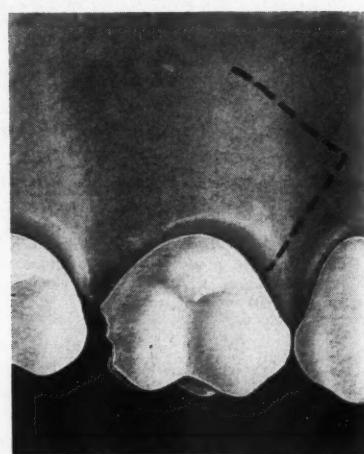


Fig. 2—Outline for mucoperiosteal flap incision between first molar and second bicuspid.



Fig. 3—Flap deflected. Drill aimed at bifurcation of mesiobuccal and distobuccal roots.

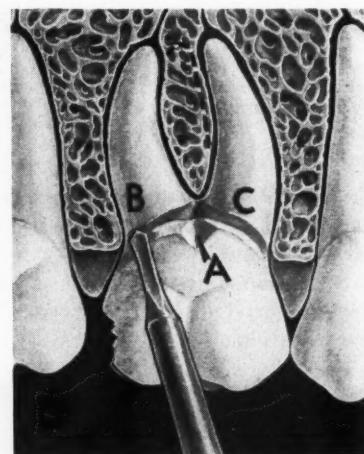


Fig. 4—Drill has penetrated the buccal plate, making a notch (A). Drill paths (B and C) pierce and undermine the mesiobuccal and distobuccal roots.

dreds of cases in which it has been used, the chisel and mallet have almost been discarded. Why is the spear point drill so superior to any type of bur, chisel, or mallet? The drill has the following advantages:

1. The life of the drill is many times that of a bur. The drill is easily wiped clean of debris, and the edges can be resharpened.

2. It cuts with extreme rapidity and can penetrate bone, dentine, and cementum with great ease. The only tissue which it cannot cut is enamel;

this is done with a stone or diamond drill.

3. Psychic trauma to the patient is prevented by eliminating the use of the mallet and chisel.

4. The dentist can qualify as an expert in the use of the motor-driven instrument; therefore, he is well qualified to use the spear point drill skillfully.

5. The dentist can use the spear point drill without assistance by using one hand for retraction and the other to hold the handpiece.

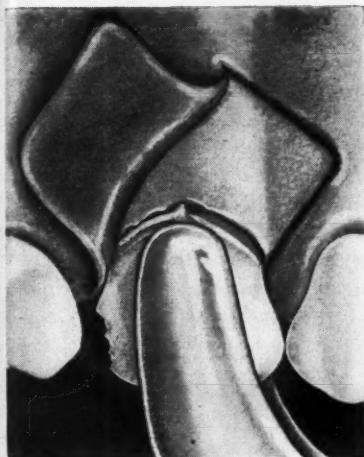


Fig. 5—Crown is removed with forceps.

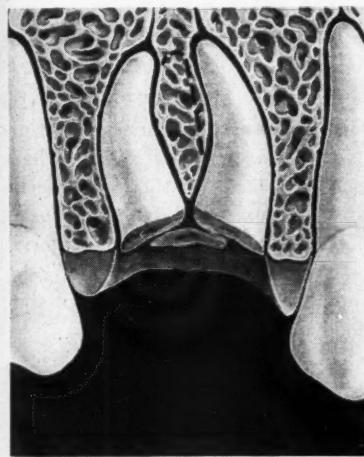


Fig. 6—Crown removed, three roots remaining in sockets.

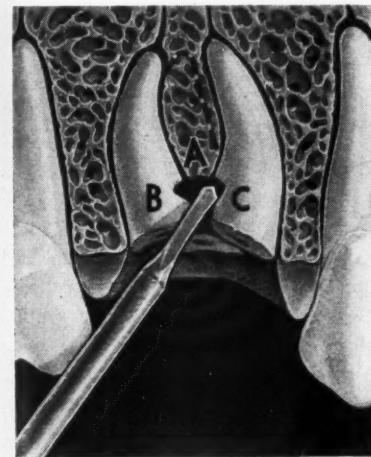


Fig. 7—Septum (A) is pierced with drill, and traction holes (B and C) are made about 2 millimeters below base of root.

Principles in Spear Point Drill Technique

1. The drill is effectively employed

in dividing, or sectioning, the crown.

2. On removal of the crown, access to the roots is obtained. It may be necessary to raise a tissue flap and to remove bone to expose the roots, as in an impaction; however, bone removal will be at a minimum.

3. The root, or parts of the root, are sectioned with the drill to facilitate final removal of the apical third of the root. When the upper two thirds of the root are removed, access is obtained for dislodging the lower third of the root by means of a suitable elevator.

The drill thus does essentially two things: (1) It breaks up the tooth into parts; and (2) it makes points of application, such as little holes, in the substance of the tooth for the insertion of elevators in root removal.

Removal of an Upper First Molar

The following step-by-step procedure, with modifications, can be employed in removing any tooth:

1. A triangular incision is made between the first molar and the second bicuspid, applying the usual principles for flap design⁴ (Fig. 2).

2. The mucoperiosteal flap is retracted with the periosteal elevator (Fig. 3).

3. Using a number 103 spear point drill in the handpiece, the buccal plate is entered approximately at the bifurcation of the mesiobuccal and distobuccal roots. The distobuccal root is then pierced, and the same is done to the mesiobuccal root (Fig. 4). This is repeated two or three times to undermine the roots.

4. The crown usually can be removed easily with forceps (Fig. 5). The lingual root generally comes out with the crown, but occasionally three roots are left in the socket (Fig. 6).

5. The spear point drill is then applied in an upward direction at the bony septum between the two buccal roots; this procedure separates the roots. The mesiobuccal root is nicked slightly about 2 millimeters below the base of the root to make a traction hole. The same procedure is carried out on the distobuccal root (Fig. 7).

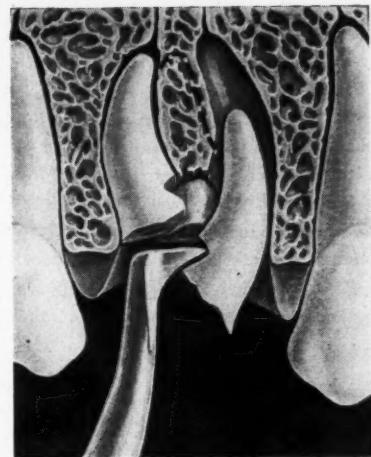


Fig. 8—Point of elevator is applied at right angles in traction holes to dislodge roots separately.

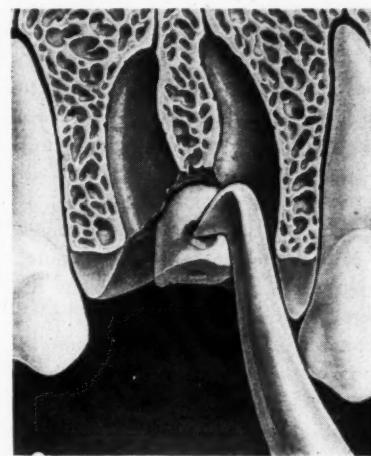


Fig. 9—Lingual root is removed in same manner as were other roots.

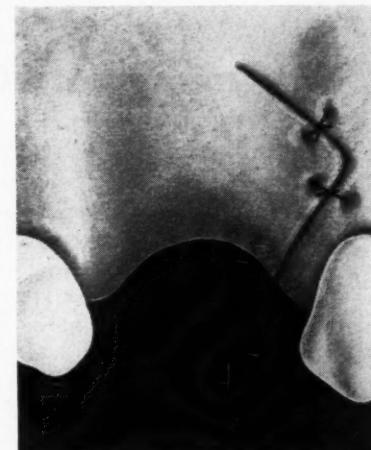


Fig. 10—Flap sutured to place with two sutures after roots have been removed.

6. The buccal roots are dislodged easily from their sockets with a modi-

⁴Cogswell, Wilton W.: *Dental Oral Surgery*, Pittsburgh, Dental Digest, Inc., Chapter 12.

fied Cryer elevator or a similar instrument inserted in the traction holes (Fig. 8).

7. The lingual root is removed by making a similar traction hole in it with the drill, and then inserting the elevator into the hole (Fig. 9). Narrow-beaked forceps may be used in removing roots in less difficult cases.

8. A ronguer is used to remove ragged and sharp edges from the

buccal and interseptal plates, and a bone file and a curet are used for removing loose spicules of bone.

9. The mucoperiosteal flap is replaced with two sutures (Fig. 10).

Conclusions

Motor-driven instruments such as the bur and the stone are used daily in the dental office. The dentist has acquired great skill in the use of

these instruments; therefore, he can easily become skillful in the use of the spear point drill. The most difficult extractions become routine with its application. Once the drill technique is mastered and the simple principles involved are understood, even impactions can be removed safely and without the disadvantages found in using the mallet and chisel.

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Histamine Reaction from Periodontal Pockets

E. W. FISH, M. D.

Some reference has been made to the presence of histamine in these chronic foci [periodontal pockets]. Histamine not only causes local dilation of the capillaries but also, if it gets into the circulation, it causes a drop in the general blood pressure. There does not appear to be any direct evidence as to the effect of a continued seepage of histamine in minute quantities into the circulation; but it is true that some people do have unusually low blood pres-

sure without any apparent reason for it, and they tend to suffer from anxiety neuroses and general anoxemia with the corresponding malaise consequent upon incomplete oxidation of metabolic products in the cells.

Low blood pressure is also characteristic of rheumatic conditions and the association with histamine production in a chronic focus may not be fortuitous. This at least offers a possible explanation for the fre-

quent comment by patients after a massive infection of the mouth has been eradicated that they "feel much fitter;" they certainly would if their blood pressure had risen and their anxiety neurosis had disappeared. It would be of interest to record the blood pressure in these cases.

—From Fish, E. W.: *Parodontal Disease*, ed. 1, London, Eyre and Spottiswoode, Ltd., 1944, page 46.

Immediate Care of the Unconscious Patient

H. R. HATHAWAY, M. D.

Respiratory obstruction is the immediate cause of death in an appalling number of unconscious or semi-conscious patients. The following are the two most common upper respiratory tract obstructions:

Anatomical

The most common obstruction is caused by relaxation of the muscles of the tongue and pharynx, allowing the soft parts to fall back into the posterior pharynx.

Prevention of this type of obstruc-

tion is simple: If the mandible is raised and brought forward, the tongue and soft parts are displaced away from the posterior pharynx.

Secretory

The next most common form of respiratory obstruction is the collection of secretions, such as mucus, blood, or vomitus, in the upper tract. The protective mechanisms such as expectorating, swallowing, or coughing are lost in the unconscious patient.

This form of obstruction can be prevented or corrected by aspiration (which is effective but rarely available), by wiping the material out with the finger covered with gauze, and by placing the patient immediately in a position such as the Trendelenburg position so that the material will drain into the nasopharynx.

—From *United States Naval Medical Bulletin*, 43:663 (October) 1944.

The Editor's Page

AN ULCERATIVE area the size of a post card, or even of a postage stamp, is a matter of grave danger to the survival of the organism. A lesion of this size on any mucous surface may endanger health and life. It is hard to reconcile this with our indifference to the areas of the oral mucous membrane involved in ulcerative lesions, surfaces of periodontal inflammation that in total size may be as large as a post card.

Dentists in general may be indicted by physicians and the public for their apathy toward periodontal disease. Our efforts at prevention are negligible; our methods of treatment are casual; and our evaluation of soft tissue disease as a possible focus of infection is indifferent. The toothbrush, which is the most potent tool for the prevention of soft tissue disease, is used not at all or improperly by the majority of people. Few dentists take the time to teach their patients proper brushing methods or to verify the results. Our treatment of periodontal disease has been haphazard and has followed no rationale. If we believe in drug therapy, we apply almost everything in the pharmacopoeia. If we have been followers of the traumatic theory, we have ground teeth and "balanced" the occlusion. The surgeons among us have taken the scalpel and the electrocautery in hand at the earliest signs of inflammation. Our treatments seldom have been planned to meet the unique conditions indicated for each case.

In considering oral infections as the cause of systemic disease, we have leaned heavily toward the dangers of the pulpless tooth and have ignored in large degree the lesions of the supporting tissues. Fish, in his recent book,¹ states:

"The three channels by which a focus of infection may affect the general health are: (1) Direct spread of infection including the possibility of swallowing pus and inhaling infection, with consequent risk to the digestive and respiratory tracts; (2) a transient bacteremia whenever hard food is masticated; and (3) the constant absorption of toxic matter from the ulcerated surfaces at the gum margins into the general circulation."

Fish believes that any patient who presents one of the following conditions is in need of periodontal treatment: (1) Gingivae that bleed easily; (2)

interdental spaces choked with debris, fillings, or detached gum papillae; or (3) deepened periodontal sulci revealed on exploration with the probe.

Although Fish emphasizes the importance of toughening the surface epithelium to prevent periodontal disease, he warns against the traumatic injury that may result from too vigorous and incorrect brushing with an ultrahard brush:

"It is most important to realize that while friction of the gum margins which is kept within the physiological limit and is properly graduated is the keystone of all methods of maintaining oral hygiene, the brutal use of an excessively hard brush will have quite an opposite effect and cause wounding and destruction of the gum tissues. Many cases of subacute marginal gingivitis are kept active in this way, while in patients with 'tougher' tissues the results of using too hard a brush resemble senile recession of the gums. Occasionally actual ulceration is observed which has no other cause, and clears up by prohibiting the use of a hard brush and substituting a very soft one, gently used. Graduated gentle exercise with a spade in the garden will harden the hands, but scraping them on a broken bottle would have quite the reverse effect." We presume that the "soft brush" advocated by Doctor Fish does not mean a brush grown soggy and lifeless by too much use. A hard brush made usable by soaking in water will be acceptable to most American dentists; but if "soft brush" means a worn-out, sodden brush, we find ourselves in violent disagreement with Doctor Fish.

There is no specific for the prevention of periodontal disease, although proper home care on the part of the patient comes close to the specific category. It is not so much what kind of brush the patient uses or what he uses on it; the important thing is to brush and to stimulate—in the words of Fish, "to keep the epithelial coverings of the gum margins hard enough to withstand the normal trauma without danger." For most civilized people this routine of epithelial keratinization can never be relaxed. It is necessary for prevention of periodontal disease and is mandatory for maintenance of soft tissue health after any form of periodontal treatment. Drug therapy or surgical procedures will have no lasting value unless the patient does his part. His responsibility never ends.

¹Fish, E. W.: *Periodontal Disease*, ed. 1, London, Eyre and Spottiswoode, Ltd., 1944.

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Contra- Angles



Two Assemblies . . .

This commentator has recently attended two all-day sessions devoted to subjects of contemporary dental interest. One significant meeting was sponsored jointly by the Chicago Dental Society and the Illinois State Dental Society. The entire program was given over to papers on dental health economics. Seldom in any single day have so many well prepared and distinguished papers been presented. In a controversial field such as socio-economics, one usually expects opinions to vary from those of the archreactionaries to those of the pink-tinged liberals. Without exception every speaker who appeared before the Assembly on Dental Health Economics spoke realistically, factually, without emotion, and, most blessed of all things, each spoke to the point under discussion.

Doctor Lloyd H. Dodd of the Council on Dental Health of the American Dental Association gave a historic survey of the dental distribution problem. He pointed out that dentistry's first hundred years were concerned with how to do good dentistry, and that the second hundred years will be concerned with our efforts to see that this good service is made available to the American people. Doctor Dodd traced the development of thinking with respect to the wider distribution of health services. He showed that the first national recognition of the subject goes back to the administration of Theodore Roosevelt, when in 1905 the first White House Child Health Conference was organized. Over the forty years since that time other conferences have been held. Thousands of words have been uttered from the platform and have appeared in print. Not until the last

ten years, however, have these philosophies of the social planners taken the form of legislation. Although there is not yet a federal health service for all the people, legislation to that end has been proposed, as is testified by the Wagner-Murray-Dingell Bill.

Doctor Dodd pointed out that the dental group has been progressive in its thinking and that it will continue to be so. He was emphatic in his statement that legislation cannot do the entire job of providing adequate health services to all the people—that everyone must contribute to such a plan by his zeal, his earnestness, and his industry.

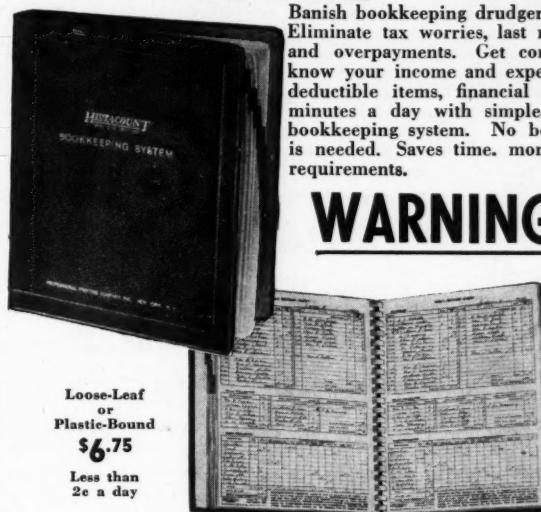
Mr. Melvin Dollar, Resident Lecturer in the School of Public Health at the University of Michigan, projected the magnitude of the dental problem. He showed that under the present system the annual expenditure for dental care is about five hundred million dollars; but that if adequate dental care were to be given to the entire population, the cost would be more than five *billion* dollars as the initial expenditure and more than a billion dollars a year for maintenance care. Not only are our funds insufficient to provide adequate dental care for all the people, but the personnel is not available. Mr. Dollar estimated that the services of about 425,000 dentists working a year would be required to perform the initial dental services for the adults in the population and that an additional 50,000 dentists would be needed to care for the children. Whereas at present we have about 70,000 available dentists in both the civilian and military population, we would need about 475,000 to give the proper attention to all the people. Mr. Dollar, in common with all the other speakers on the program, stressed that a program of prevention, research, and public health education directed toward children was the only feasible national dental health program. He expressed the point of view that dentists will champion such a program and will not wait to have one forced down their throats.

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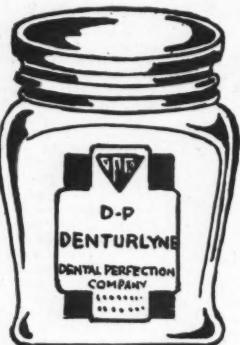
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The third speaker appearing before this outstanding assembly was Doctor Lon W. Morrey of the Bureau of Public Relations of the American Dental Association. Doctor Morrey showed that over the last hundred years the dental population has increased from 1,200 dentists to 70,000 dentists, or from a ratio of one dentist for more than 8,000 persons to the present ratio of one dentist for 1,800 persons. Dental demands have increased over the last hundred years. This represents a steadily increased appreciation by the public of the value of dental treatment. At the present time the ratio of one dentist to 1,800 potential patients represents a condition that has been static for fifteen years. Of these 1,800 potential patients for each dentist, only about 400 persons actually receive treatment each year.

In speaking of the proper utilization of auxiliary dental personnel, Doctor Morrey showed that at the present time there are about 35,000 dental assistants, 3,000 dental hygienists, and 16,000 dental technicians. The dental assistants receive little formal or specialized training. In fact, there are only three dental institutions and two vocational high schools in the country that offer training programs for dental assistants. By the proper utilization of the dental assistant, the dentist can increase his services from 25 to 50 per cent.

In the case of the dental hygienists, the numerical growth has not kept pace with the increase in the number of dentists, dental assistants, and dental technicians. In the last twenty years the number of dental hygienists has decreased. At the present time dental hygienists are licensed to practice in thirty-two states. In states where they are not licensed, controversy exists in dental circles regarding whether or not they should be licensed.

The dental technician, another auxiliary to the dentist, performs services for about 90 per cent of the dentist population. At the present time there are 2,800 dental laboratories in the United States, or one

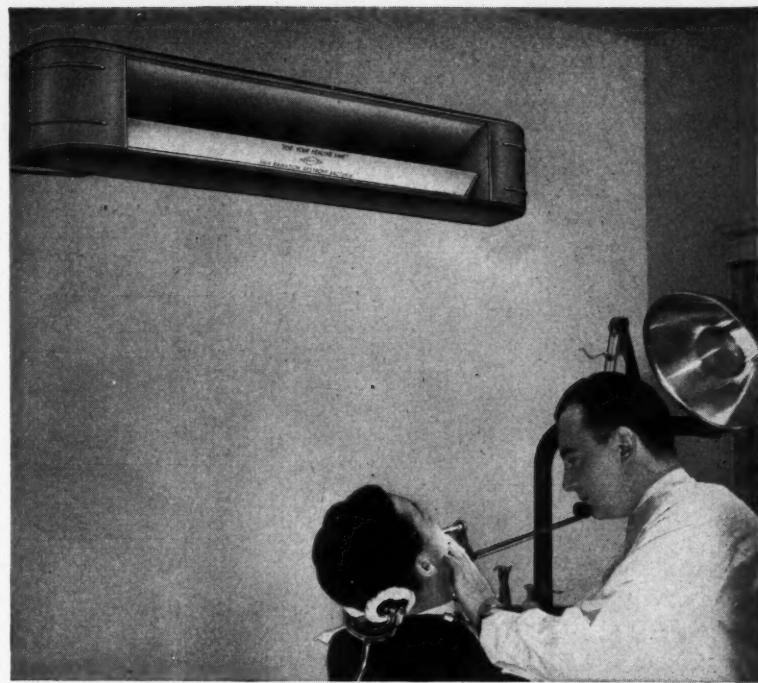
laboratory to serve every 2,500 dentists. The laboratory business has grown from a fifteen million dollar business in 1920 to a 125 million dollar business in 1944.

The fourth speaker, Doctor Allen O. Gruebel, Executive Secretary of the Council on Dental Health of the American Dental Association, outlined a dental health program that consists of the following:

1. A nationwide educational program in public health dental methods to be given to dentists.
2. An appraisal of the dental resources in all communities.
3. The establishment in every locality of a Council on Dental Health which would include representatives of the public.
4. The establishment in every state health department of an active dental division.
5. Dental health projects financed from ear-marked public funds to promote dental research education and dental treatment for children.
6. The development of experimental programs, such as prepayment, group clinic, and low income group programs, in every community.

The address given by Doctor J. M. Wisan, Director of the Dental Division of the New Jersey Department of Health, was a vigorous statement of the practical workings of a dental program. Doctor Wisan's basic theory is that the community responsibility and interest must be stimulated before any dental program can be successful. His opinion, which is shared by most enlightened dental health economists, is that dental societies should outline the technical and professional aspects of a program and that the matter of raising funds is a community responsibility. Doctor Wisan expressed two fundamentals which should be kept in the thinking of every dentist: (1) That the public should be asked to participate as sponsors of any community dental program, and (2) that no program should be instituted in a community without the approval and cooperation of the dental organization in that community.

(Continued on page 570)



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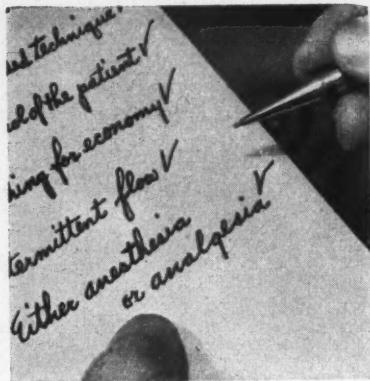
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The evening session of the Assembly included two excellent addresses. Doctor Donald W. Gullett, Secretary of the Canadian Dental Association, outlined the Canadian Dental Plan, a plan which does not attempt treatment for large masses of people but one that is based on the control of dental caries beginning from the earliest period of life. In Canada the dental group went to their government with a definite and specific proposal of cooperation in any health insurance program for the citizens of the Dominion of Canada. Doctor Gullett pointed out that there is no such thing as isolationism in dentistry. In fact, as he said, "Dentistry is a minority group of small dimensions compared with labor, agriculture, and other interests in the community." Although legislation alone cannot improve the health of the nation, it is through legislation that we may expect to see subsidized programs established for the improvement of the dental health of all our people.

The last speaker appearing before the Assembly was Senator James E. Murray of Montana. Senator Murray demonstrated statesmanlike qualities in his intelligent appreciation of dental values. He said, in effect, that dental care is so good and so important that the public constantly wants more of this service. Senator Murray's record in the Congress demonstrates his interest in dental health; he has previously sponsored bills for dental research. Senator Murray shared the spirit expressed by every speaker before the Assembly; namely, that a control program for children is the only sound and satisfactory approach to the problem of dental health.

The other full-day assembly was sponsored by the Institute of Medicine of Chicago, and was devoted to discussions of nervous and mental diseases. One of the speakers before this group, Doctor C. Charles Burlingame, Psychiatrist-in-Chief of the Institute of Living in Hartford, Connecticut, showed how war disturbs life patterns of employment, of physical surroundings, of the family, and

(Continued on page 572)

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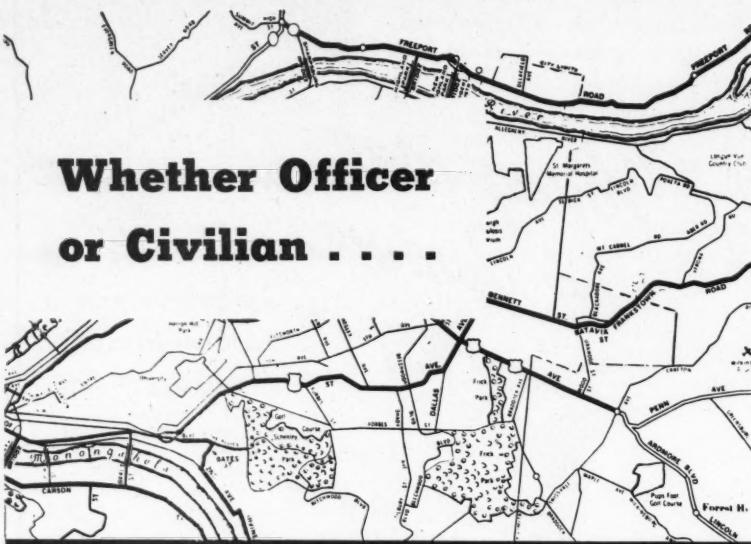
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If you are in the armed service or have friends in the Dental Corps of the Army or Navy, don't miss the offer which Doctor Ryan makes in his editorial this month—a booklet called "The Return to Civilian Dental Practice" containing practical articles on practice management written by authorities in the field. It is free for the asking, and will be ready for distribution about January first. Write Doctor Ryan now to send your copy as soon as the first edition rolls off the presses.

"Presenting Dentistry to New Patients" is a challenge to action. . . . "The dentally unfit in civil life number uncounted millions. Many are in this group only through ignorance and would welcome rescue from it. . . ." While written to the dentists returning to practice, it will

not be time wasted for any dentist to read this short article. Doctor George Wood Clapp, the author, says in summation, "In proportion as you give your hearers a new conception of the importance of dental fitness in civilian life, you can have the quality practice you want, on a professional basis, as long as you want it." That applies to *keeping* a practice as well as *building* it.

The women dentists step forward in this issue with the story of Doctor Margaret Jones, a brave girl who, even after losing both arms in an accident, has earned her D.D.S. . . . and the story of the women dentists who give their skilled services to merchant seamen of all countries (Japs and Nazis excepted).

M.D. and D.D.S. could work together with mutual understanding and respect if the suggestions of Doctor Elwood Draper were put into action. His article, "The Dentist Drills the Doctor — and Explains Why," gives food for thought . . . and ammunition for argument.

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of sex relations. These mass instabilities lead to neuroses. Doctor Burlingame emphasized the importance of man management by both labor and industry in preventing neuroses of the future. He emphasized the old schoolbook maxims of the importance of self-reliance, self-interest, and productive activity. The basis of his approach was concerned with getting the neurotic into a job and transferring his antisocial feelings into affirmative social actions.

Colonel William C. Menninger of the Office of the Surgeon General talked about the personality decompensation in the soldier. Under the present psychiatric examinations, only the gross abnormalities are detected. Under no condition can the psychiatric examination, according to Colonel Menninger, approach laboratory exactness. One cause of psychiatric personality decompensation is the difficulty of vocational adjustment in the Army. Whereas in civilian life there are 1,700 different vocations in which people can engage, in the Army there are only 800 vocations. This means that some people are thrown into work that is not acceptable to them.

Another Army medical officer, Lieutenant Colonel Roy R. Grinker, showed that in the anxiety state that is found among fighting men the ego must be strengthened. People's reactions to the stress of military life depend on their past personality structures. If they have strong, well integrated personalities, they are not likely to undergo personality decompensation or ego-shattering experiences. In those passive neurotic states in which the patient becomes dependent on others, he is suffering from ego depletion. That depletion must be replenished as surely as body fluids, minerals, and other physiologic reserves. Soldiers who regress to infantile levels are likely to show diffuse abdominal pain, nausea, and vomiting, and tolerance only to milk as a food.

The psychotic states, however, are no different in war from those found in peace. They are the same kind that

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(Continued from page 572)

are met in the civilian population. Colonel Grinker showed the need of developing group forms of psychotherapy without resorting to long and highly individualized psycho-analytical techniques. His word of warning should be repeated with great emphasis: Regressed personalities and those who come out of the military experience with neuroses and psychoses are susceptible to the promises of political demagogues and social charlatans.

The Pasteur Lecture of the Institute of Medicine was given by Doctor Edward A. Strecker, President of the American Psychiatric Association and consultant to the Surgeons General of the Army and Navy. Every professional group should have the opportunity to listen to this learned, cultured, and understanding man. Doctor Strecker emphasized that our engineering and inventive genius is more highly developed than our level of emotional tolerance, that war penetrates deeply to the old emotional levels, and that our emotions are stripped to the core and laid bare under the stress of war. The role of psychiatry is to uncover the innate personality markings that determine the response to emotional stimuli. In general, Doctor Strecker stated that the prognosis of a neurotic or psychotic patient is dependent on the previous personality; the better integrated it was, the better the prognosis. The vacillating, weak, poorly integrated personalities fall quicker victims to the stress of war and make slower recovery. For those unfortunates who suffer as neuropsychiatric casualties, simple therapy is suggested: rest, hot foods, and the development of insight and understanding. Early treatment is important, and the sufferer must be shown the danger of too much introspection and fixation upon his symptoms.

Like all great men, Doctor Strecker emphasized the simple things: That mental health comes from good morale, which is a combination of confidence, trust, and mutual helpfulness. For the world after the War's

(Continued on page 578)

Another Case Where Better Practice Indicates

PRECISION ATTACHMENTS

The use of Precision Attachments is indicated in this case because they eliminate the need of a cumbersome continuous clasp from central to 2d bicuspid, which would be required in a clasp case in addition to clasps on both 2nd molars.

Precision Attachments make the case more comfortable to the patient, and more esthetic, avoiding the display of unsightly clasps—particularly on the central incisor.

When Attachments Are Indicated, Specify

BROWN PROXIMAL CONTACT ATTACHMENTS



- Built-in Proximal Contact. Also made in Plain Shank Type.
- Ten standardized, interchangeable sizes.
- Strong—made in one piece, no seams or solder.
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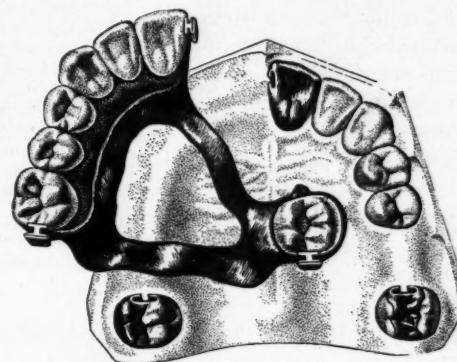
Twelve Design Charts of Attachment Cases with Descriptive and Technical Literature on request.

[As makers of attachments, we are as anxious to discourage their use where contra-indicated as to encourage it where indicated.]

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ONE axiom has come out of the debate over the relative merits of clasp and attachment restorations—that neither type is a universal "best."

The important advantages of attachments are:

1—Life of the abutment tooth is greatly prolonged because, since the attachment is within the contour of the tooth, the stress applied is in line with its long axis; and also because possible erosion under a clasp is eliminated.

2—Esthetics is enhanced by eliminating a show of clasps, particularly on anterior teeth.

3—Attachments assure much more comfort to patient because of greater stability in a precision attachment and because all material on surfaces of teeth is eliminated.

The case illustrated is one in which "doctors agree" better practice indicates attachments for the reasons given.

Generally speaking attachments should be used:

- when the number and location of clasps required will form a too cumbersome or unesthetic appliance;
- when an abutment tooth lacks normal stability; a precision attachment will by itself immobilize the tooth without the addition of the indirect retainers necessary in clasp work;
- when the abutment teeth already accommodate the required inlays or crowns.

AVAILABLE:

DENTAL DIGEST BINDERS FOR 1943; ALSO
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THE DENTAL DIGEST

1005 Liberty Avenue, Pittsburgh 22, Pa.

end, Doctor Strecker believes that "free men have duties as well as rights," and that these duties are concerned with each man as a person, in his place in the society of the nation and in the society of the world. He pictured the human personality as being made up of a number of concentric circles. The inner circle, or focal point, is the private, personal life of each person, where he may have his own dreams, his own thoughts, his own ideals, and his own ambitions. Outside this inner core the concentric circles begin to overlap. They impinge upon the "circles" of others. That territory that exists between "I" and "You" can be covered only by concessions to each other, by tolerance between each other, and by the ability and the desire to give and take.

It takes men of wisdom and great learning to express fundamental truths in simple terms. This talent all great teachers have had. I would number Doctor Strecker among them.

Fluorine in the Headlines . . .

One hardly expects the picture magazines to make important contributions to science. *Look* magazine, usually given over to voluptuous creatures and the grisly details of war, carries an article.¹ **NO MORE TOOTHACHES?** that summarizes the present knowledge of fluorine as well as I have seen the case stated in any publication. Here it is!

By all odds the most common defect of the human body is tooth decay. An ancient ailment, it has until now withstood the onslaughts of science. Diet systems and prophylactic treatments are inadequate. Indeed, dental caries—or cavities—have lately been developing as fast as ever. Like the agony of a toothache, they scream for prevention.

The long campaign against dental decay has had small success thus far because it has been essentially defensive. At last, however, there is hope of an offensive against this enemy. No longer content with patching up individual teeth after cavities develop, forward-looking dentists are thinking in terms of preventive dentistry for entire cities.

Such wholesale tooth-saving will be achieved, they believe, by a simple but basic step: that of adding minute amounts of fluorine, a tasteless chemical, to a community's water supply.

Fluorine-Rich Means Cavity Poor

More than a decade ago, it was discov-

ered that in many Southwestern towns with a naturally fluorine-rich water supply the children grew up with chalky, brown-spotted teeth. Scientists learned that large amounts of fluorine mottled the teeth—but dentists found that such teeth were usually strong, had few cavities. Similar findings were reported from Japan and Argentina. Canada recently stumbled upon a remarkable cavity-free record in the small town of fluorine-enriched Ripley, Ontario.

After considerable research, the United States Public Health Service has determined that the most effective concentration of fluorine in a water supply is one part per million. This strength is believed sufficient to provide a reduction of from 30 to 40 per cent in dental caries, but not enough to produce ugly mottling.

What makes Fluorine Effective?

Dentists are not yet agreed on the exact nature of fluorine's decay-preventing power. It may be its deadly effect on decay-causing bacteria normally present in the mouth; or it may be an ability to resist decay by its mere presence in the tooth enamel. In any case, fluorine's benefits have been proved real by statistics from a number of communities.

The children in five neighboring Chicago suburbs have the same hours of sunshine, the same fondness for decay-producing foods, and about the same opportunity to indulge that fondness. Yet a school survey showed that Evanston and Oak Park children, drinking fluorine-free water from Lake Michigan, averaged nearly three times as many decayed, missing, and filled teeth per child as those in

The advertisement features a large, central image of a "THERMOTROL ELECTRIC CASTING MACHINE" with a control panel that includes two circular dials and several small charts or scales. Below the machine, several industrial precision castings are displayed, including rings with gem settings and other intricate metal parts. To the right of the machine, the word "Jelenko" is printed in a bold, sans-serif font. Below "Jelenko", the text "THE HAS COME BACK FROM WAR!" is written in a large, bold, blocky font. In the bottom right corner, there is a block of text that reads: "A multiple casting of rings with gem settings and a few of the hundreds of industrial precision castings now being 'Cast by Thermotrol'."

Elmhurst, Maywood, and Aurora, whose drinking water comes from deep wells and contains a liberal concentration of natural fluorine. Surveys in Wisconsin and Texas have confirmed the Chicago results.

Incidentally, mottling of the tooth enamel is not a serious argument against fluorine. For it does not occur in all teeth, is usually noticeable only to the dentist—and can be removed.

It Works Best in Drinking Water

Fluorine has proved its effectiveness not only when administered in drinking water, but also when applied directly to the teeth. An Indianapolis Public Health Nursing Association direct-application test showed that the average treated child developed slightly more than half as many cavities as an untreated child. Such tests in Min-

nesota reduced the incidence of caries about 40 per cent.

Experts agree, however, that drinking water is the best method of administering fluorine. Protection is then automatic and constantly available to the entire population. Practically speaking, the addition of fluorine in the desired amounts to any waterworks system is as simple as the present practice of adding chemicals to soften water, remove unpleasant tastes. The cost, estimated at less than eight cents a year per capita, is trivial.

Lucky Guinea Pigs

Although small-scale tests have been highly successful, the real test of fluorine's effectiveness in a city's water supply will

(Continued on page 580)

MOTROL

"THERMOTROL" is now back home, ready to pick up the work it had to drop when called to war.

When the fast tempo of modern war demanded high-speed production of small precision parts, the war industries sought out "Thermotrol," whose reputation for precision casting had spread from the dental world to the vast war industries.

Since it was last generally available to the dental profession and laboratories "Thermotrol" has gone places and done things. Large industrial type "Thermotrols" are casting precision parts for small arms and aeroplanes, while those which jewelers had obtained before the war are casting clusters of rings for war brides.

By enlarging our manufacturing facilities we are now able to continue to supply the war industries and again make "Thermotrol" available to the dental profession and laboratories for the precision casting of inlays, crowns, bridges, full and partial dentures.

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be made by the New York State Department of Health.

A cooperative arrangement has been set up in the two Hudson Valley cities of Newburgh and Kingston for a long-term demonstration. The lucky "guinea pigs" for this mass experiment will be Newburgh's children. Dental examinations already under way are to be made once a year for a period of ten years on every child between the ages of five and twelve in the two cities. (The ten years are necessary to realize the full benefit of the water treatment because fluorine acts on the tooth structure during the years of tooth development.)

The Newburgh public water supply will have its fluorine concentration stepped up from the present 0.12 part per million to one part per million, the optimum ratio. Nearby Kingston, continuing to use untreated water, will serve as a control to assess the results in Newburgh. A similar long-range experiment is slated for Grand Rapids, Michigan.

Authorities believe these tests of the fluorine theory may spell an epochal achievement in dentistry and public health, and many hard-headed dentists are convinced that dental caries can eventually become extinct.

It will not be long, if magazines of general circulation continue to talk about fluorine, until we can expect the people in the communities to come to dental groups and ask what this is all about. This has already happened in some communities. And to the all-time discredit of dentists, I am sorry to report that some of them, speaking through their hats and out of their prejudices, have said that fluorine is the "bunk," that it will poison the children, that it is the same ingredient that is used in rat-exterminating potions, and that it is generally a dangerous procedure. In this stage we do not know the entire story of fluorine, but from the evidence that has been presented we can be reasonably sure that it is not toxic. I do not know what history tells us, but I presume that when chlorine was first added to drinking water the same cry was raised—that it was poisonous, that it would kill people, that it was the "bunk." But we know that since the chlorination of water supplies, typhoid fever has been largely eliminated from the population. We should think of this when we think of fluorine.—E. J. R.

¹Gibson, John M.: No More Toothaches? *Look*, 8:72-73 (November 14) 1944.

Famous WEBER "FIRST" IN DENTAL EQUIPMENT HISTORY



Henry Weber . . . pioneer inventor and founder of Weber Dental Manufac-

turing Company, developed and introduced to the dental trade in 1897 the first fountain cuspidor.

Crude as it may appear today, this Weber Cuspidor was, nevertheless, a radical departure from its unsanitary predecessor which was nothing more or less than a glorified brass spittoon elevated to chair arm height for the convenience of the patient.

Thus, Henry Weber, three years before the turn of the present century, gave to the dental world its first tangible concept of sanitation and cleanliness in the practice of dentistry. Henry Weber's idea contributed immeasurably to the advancement and elevation of the dental profession during the ensuing years and at

WEBER Dental Manufacturing Co.
CANTON 5, OHIO

Ascorbic Acid for Bleeding Gums

A number of reports have indicated that ascorbic acid is valuable for various forms of gingivitis and bleeding gums. Consequently vitamin C frequently has been administered for that purpose. The Royal Air Force, for example, has used large quantities for the treatment of all forms of bleeding gums. Now a report has appeared based on an investigation carried out between October 1941 and May 1942 to discover

the incidence of bleeding gums in the Royal Air Force and to evaluate the use of ascorbic acid in the treatment of this condition.¹

Studies

The total number of personnel under investigation was 2,962 at four stations. Of these, 588, or 19.8 per

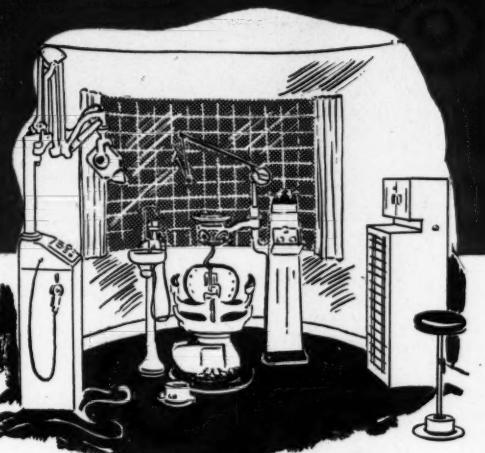
¹Stamm, W. P.; Macrae, T. F.; and Yudkin, Simon: Incidence of Bleeding Gums Among R. A. F. Personnel and the Value of Ascorbic Acid in Treatment, *Brit. M. J.*, 2:239 (August 19) 1944.

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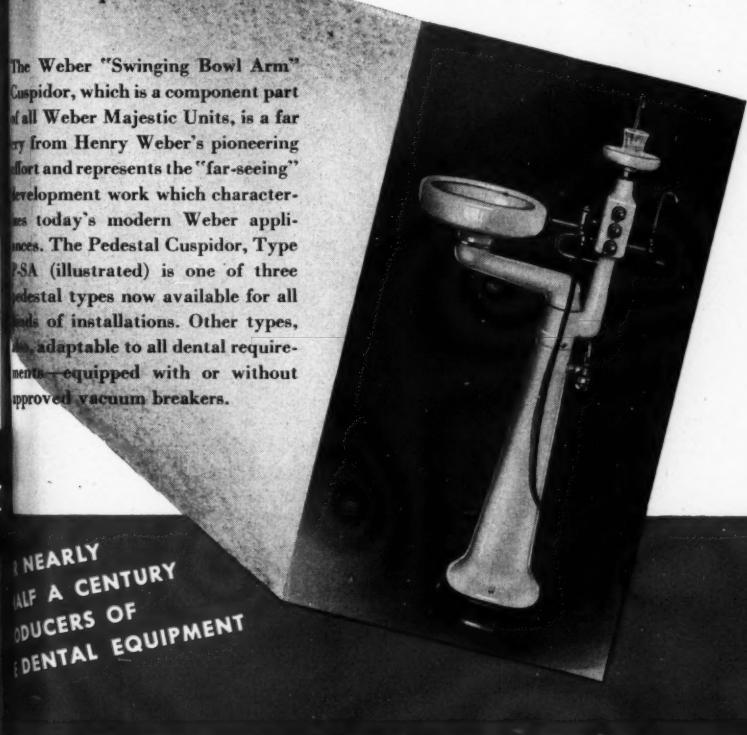
the same time laid the foundation for a company which for nearly half a century has not only continued to keep pace with dentistry's demands—but to anticipate its future requirements as well.

The Weber "Swinging Bowl Arm" Cuspidor, which is a component part of all Weber Majestic Units, is a far cry from Henry Weber's pioneering effort and represents the "far-seeing" development work which characterizes today's modern Weber appliances. The Pedestal Cuspidor, Type P-SA (illustrated) is one of three pedestal types now available for all kinds of installations. Other types, adaptable to all dental requirements—equipped with or without approved vacuum breakers.

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cent, had some degree of bleeding of the gums. The gums of the lower jaw were examined for bleeding after digital massage. Bleeding was recorded as of three degrees: (1) Bleeding just perceptible at one or two points after firm massage; (2) bleeding more easily produced, or bleeding from several points; and (3) bleeding apparent on inspection or at the slightest touch. An average amount of ascorbic acid present in the food served to the airmen at three of the stations was 25.8 milli-

grams per man daily during October and November 1941 and 16.8 milligrams during March 1942.

Alternate members of the group with bleeding gums were given ascorbic acid tablets and dummy tablets. The dose was 200 milligrams of ascorbic acid daily for seven days followed by 100 milligrams daily for fourteen days. Of one group of men with bleeding gums, 250 completed the test; 119 received ascorbic acid and 131 received dummy tablets.

Results

There was no greater improvement in the gum conditions observed in those treated with ascorbic acid than in those who received the control tablets. In one of the stations, observations were carried out on 600 men over a six weeks' period. There was a large normal variation in the degree of bleeding of the gums, irrespective of treatment. Those having "sponginess" as well as bleeding of the gums did not show any greater improvement with ascorbic acid treatment than with dummy tablets. The personal opinions of the patients with regard to the degree of bleeding from the gums and effectiveness of treatment did not bear any relation to the objective signs.

Conclusions

It was concluded that greater improvement in the gum condition was not obtained by treatment with ascorbic acid than with dummy control tablets. In view of the shortages in vitamin C supplies, it seems advisable to use ascorbic acid in the future with more discrimination. Large supplementary doses may be limited to those conditions for which scientifically acceptable evidence establishes the value of vitamin C.

—From Current Comment, *Journal of the American Medical Association*, 126:437 (October 14) 1944.



See page 541 D.D.12
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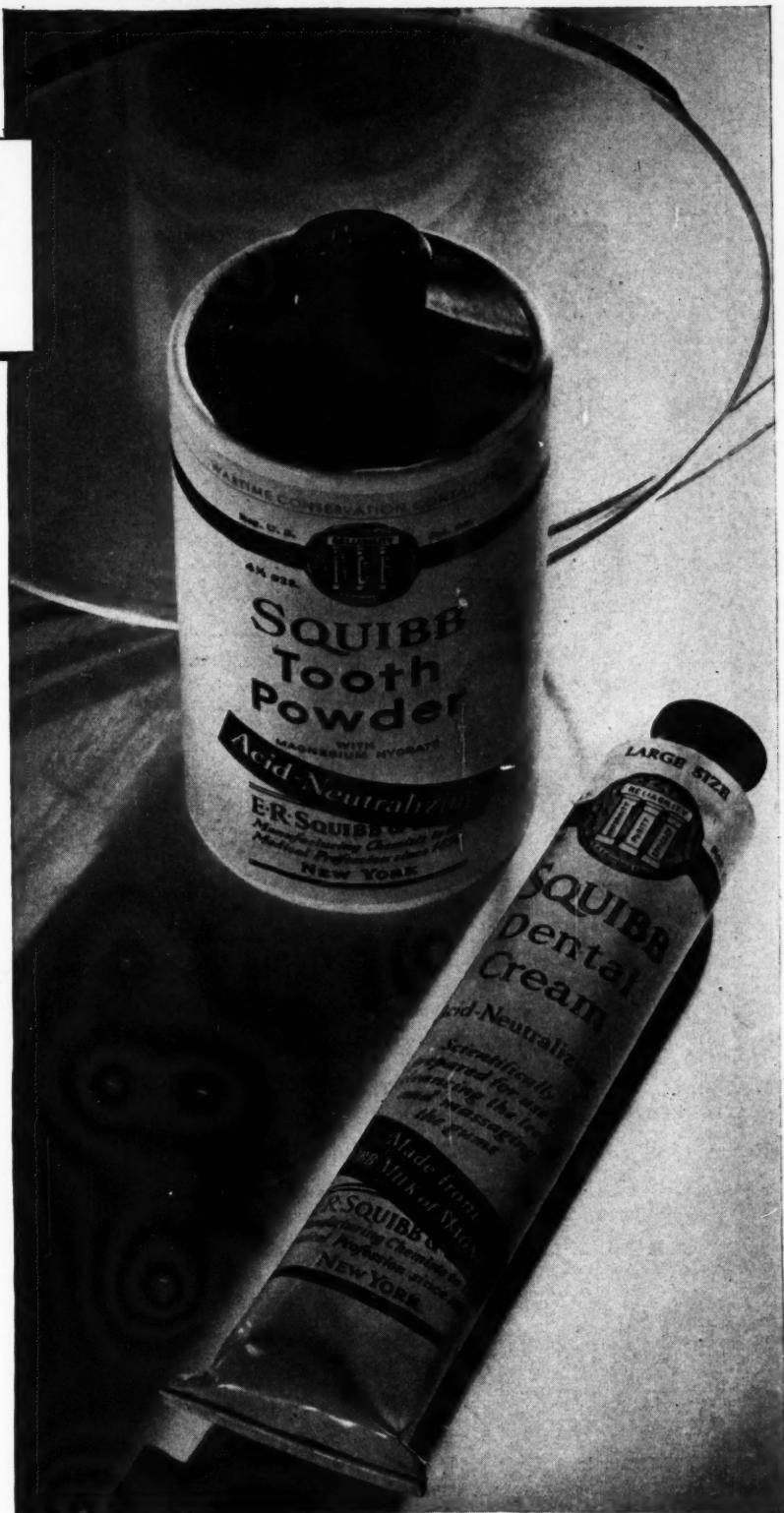
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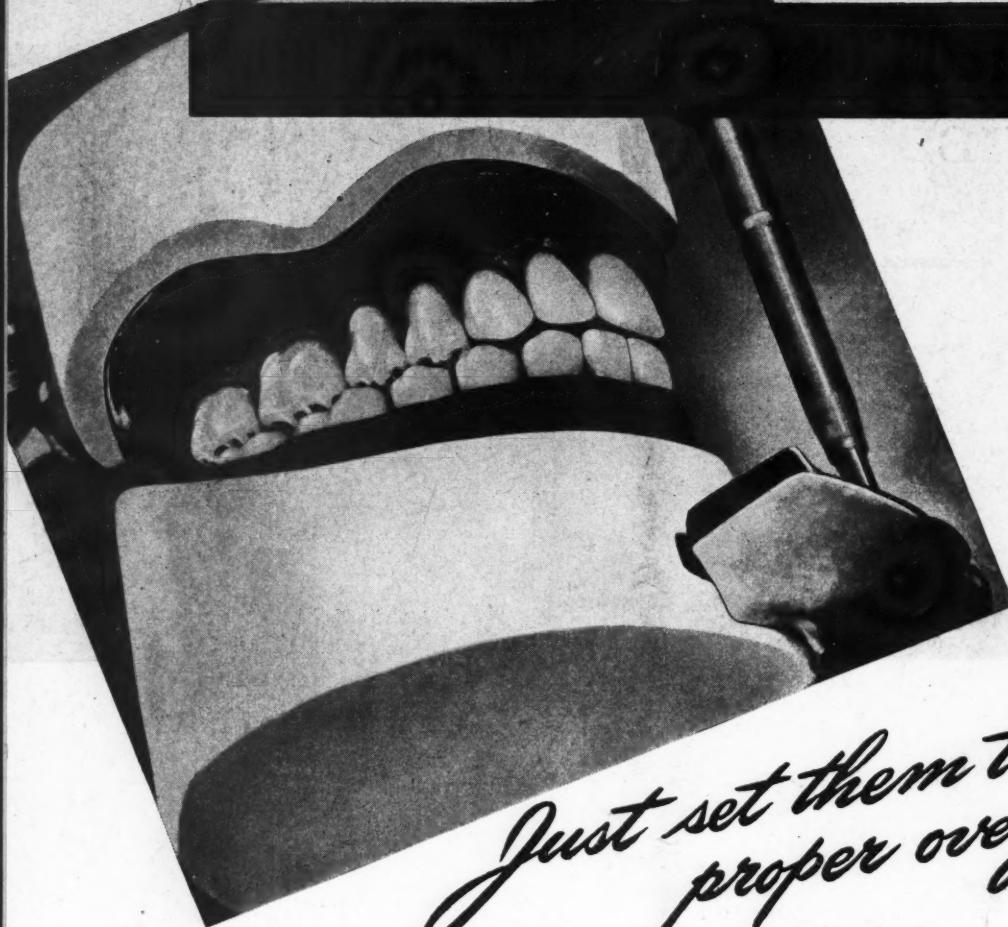


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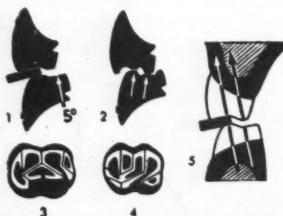
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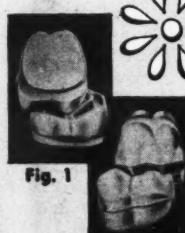


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Place the lower first molar on the ridge so that the mesial lingual cusp of the upper first molar fits squarely into the central fossa of the lower first molar (Fig. 1). You will then have the correct overjet. The buccal aspect (Fig. 2) shows the ridge of the mesio-buccal cusp of the upper first molar resting in the anterior buccal groove of the lower first molar in central occlusion.

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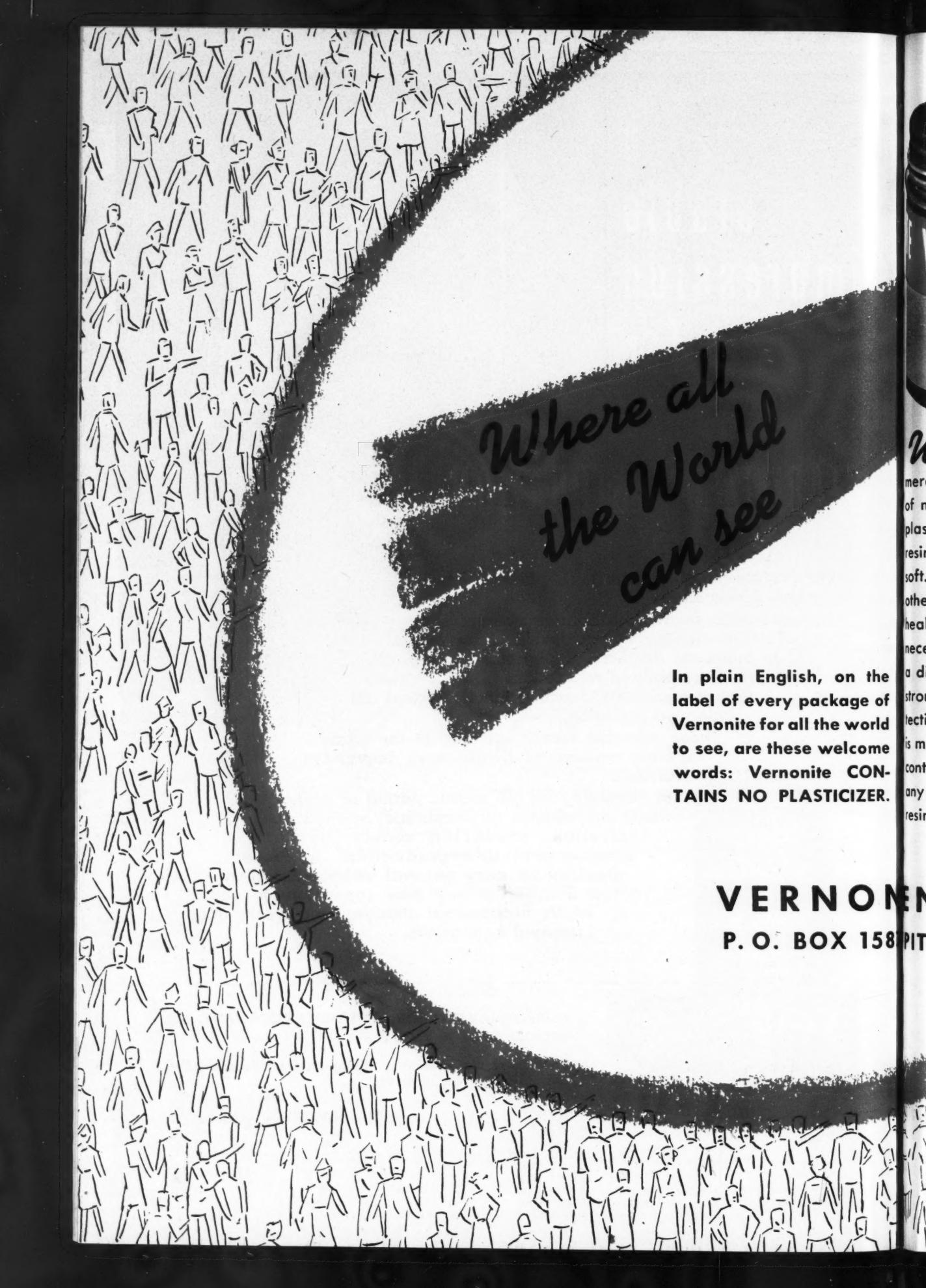


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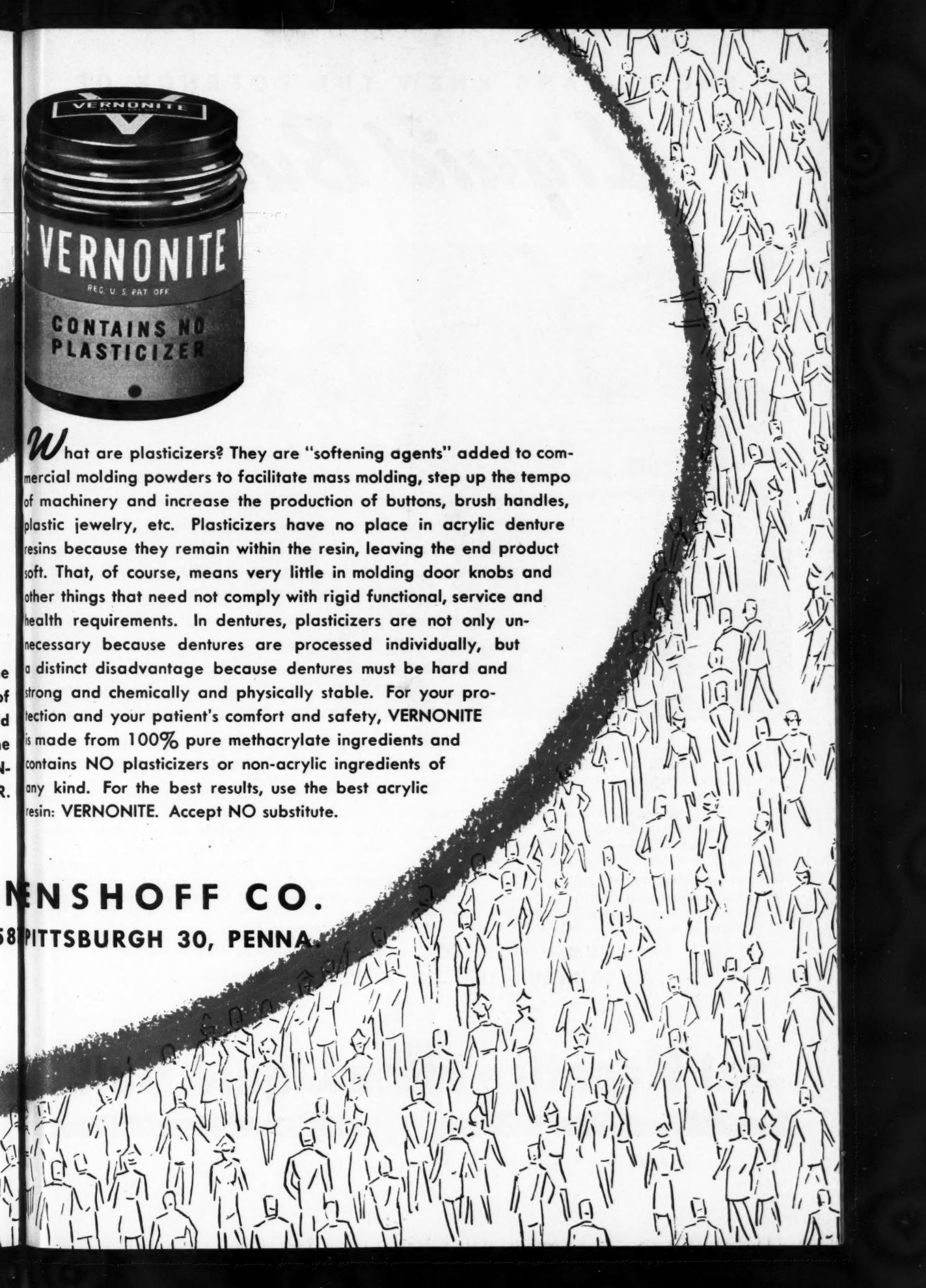
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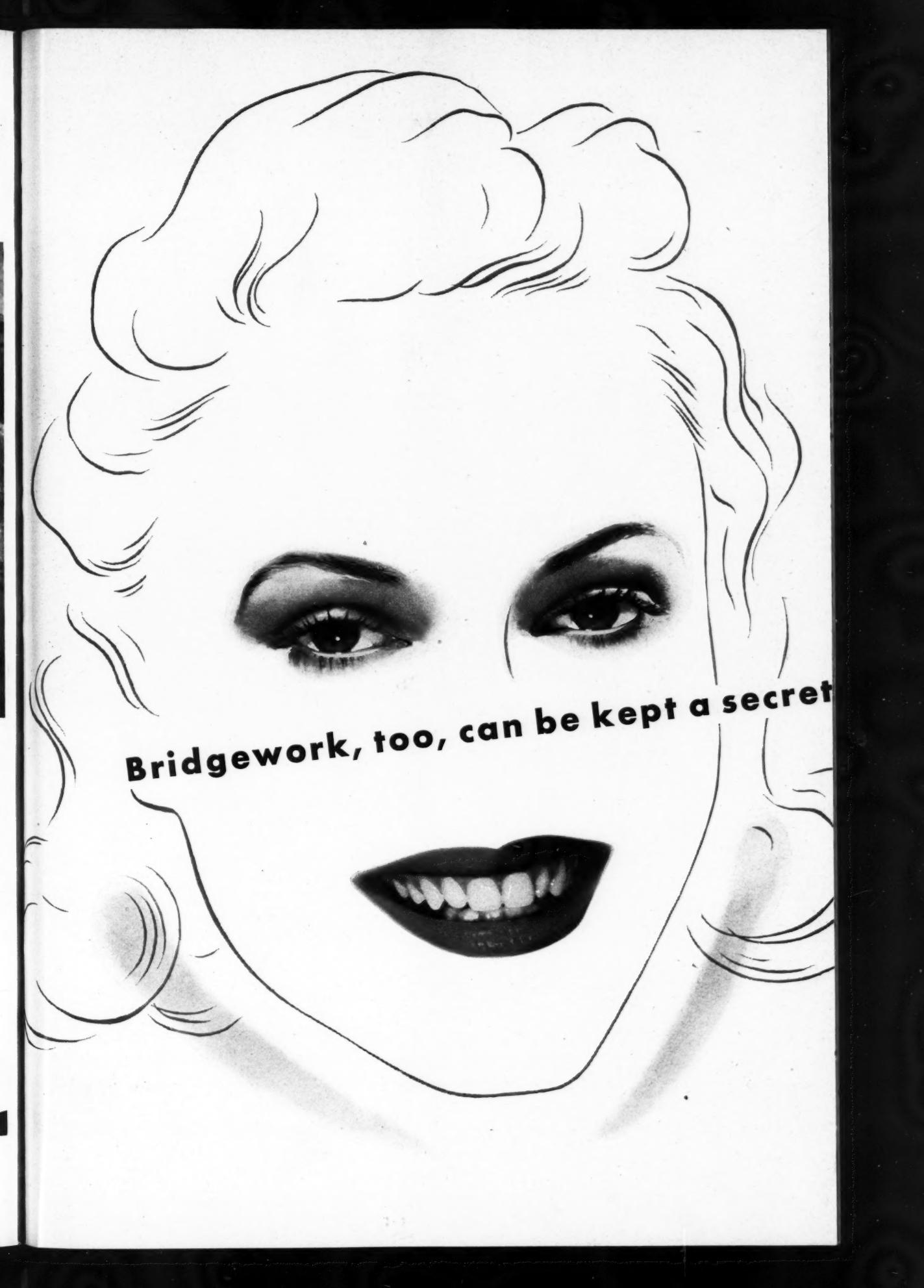
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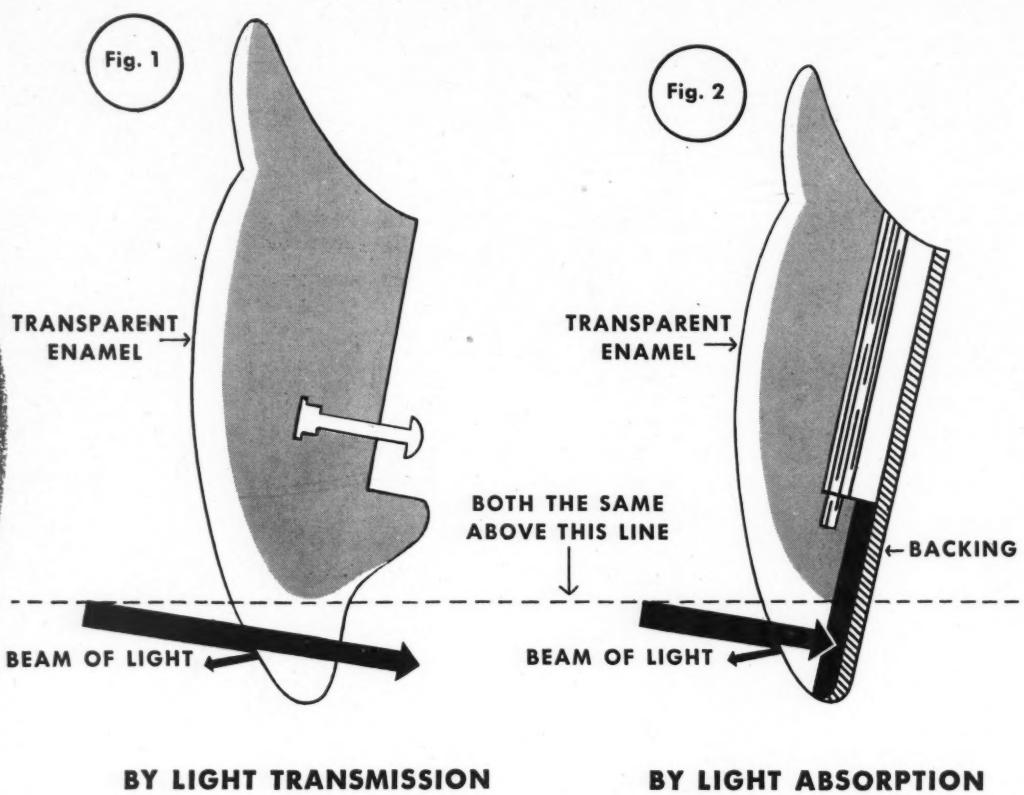
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4 x 6 Lower Anteriors

1 DENTA PEARL
"Cyclo-Mold" Shade Guide

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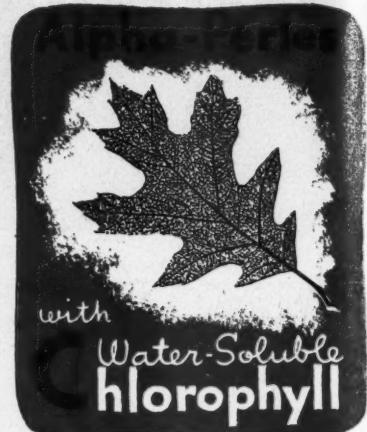
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